

KENWOOD

AV SURROUND STEREO AMPLIFIER

KA-V6000

## INSTRUCTION MANUAL

KENWOOD CORPORATION

# Introduction

Your choice of this product indicates that you are a devotee of excellence in sound reproduction. We appreciate your patronage and take pride in the long tradition of quality components that our company represents.

So that you can get the most out of your unit, we suggest that you take the time to read through this manual before you hook up and operate your system. This will acquaint you with the operating features and system-connection considerations, so that your listening pleasure will be enhanced right from the start. You will notice that in all aspects of planning, engineering, styling, operating convenience and adaptability, we have sought to anticipate your needs and desires.

**Keep this manual handy for future reference.**

## For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your dealer for information or service on this product.

Model \_\_\_\_\_ Serial Number \_\_\_\_\_

## Unpacking

Unpack the unit carefully and make sure that all accessories are put aside so they will not be lost.

Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage.

We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

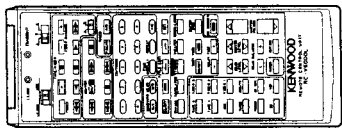
## Contents

**Caution: Read the following pages marked in ⚠ carefully to keep your safety.**

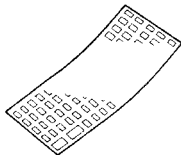
Introduction .....	2	Playback an audio component .....	23
⚠ Before applying power .....	3	Recording an audio source .....	24
⚠ Safety precautions .....	3	Dubbing an audio source .....	24
⚠ IMPORTANT SAFEGUARDS .....	4	Playing back a video source .....	25
System connections .....	6	Recording a video source .....	26
Controls and indicators .....	12	Independent audio/video recording .....	27
Remote control unit .....	13	Surround effects .....	28
Display .....	20	Title Edit function .....	33
On-screen character display .....	21	In case of difficulty .....	35
Operating instructions .....	23	Specifications .....	36

## Accessories

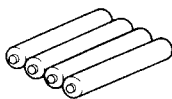
Remote control unit  
(RC-V6000L)



Remote control unit  
entry sheet



Batteries  
(R03/UM-4/"AAA").....4



## Before applying power

### For the U.S.A. and Canada

#### Important!

Units shipped to the U.S.A. and Canada are designed for operation on 120 volts AC only.

#### Safety precaution for a Polarized AC plug

**CAUTION:** TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

### For the United Kingdom

#### Important!

Units shipped to the U.K. are designed for operation on 240 volts AC only.

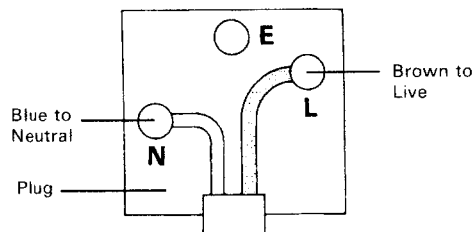
The mains plug must be removed from the wall socket prior to any internal examination.

The wires in this mains lead are coloured in accordance with the following code:

Blue ..... Neutral  
Brown ..... Live

The wires in this mains lead must be connected to the terminals in the plug as follows:

Wire colour	Plug terminal marking
Blue .....	N or Black
Brown .....	L or Red



#### Notes:

1. If a 13-amp plug is used, this must be fitted with a 5-amp fuse.
2. If a 3-pin plug with earthing contact is used, no wire must be connected to the E terminal.

### For Australia and Europe

#### Important!

Units shipped to Australia are designed for operation on 240 V AC only.

Units shipped to Europe are designed for operation on 220 V AC only.

### For other countries

#### Important!

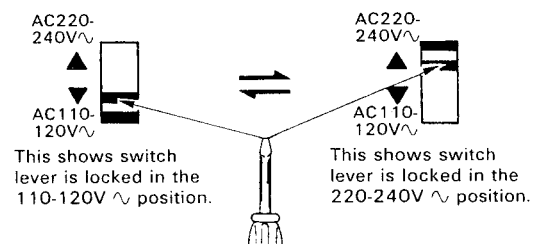
Units shipped to countries other than the above countries are equipped with an AC voltage selector switch on the rear panel. Refer to the following paragraph for the proper setting of this switch.

#### AC voltage selection

This unit operates on 110-120 or 220-240 volts AC. The AC voltage selector switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following directions.

#### Note:

Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.







Move switch lever to match your line voltage with a small screwdriver or other pointed tool.

#### AC voltage selector switch

## Safety precautions

**WARNING:** TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

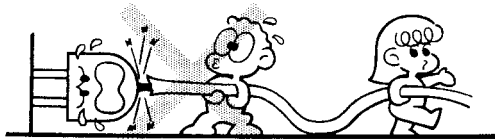
 <div data-bbox="258 1668 501 1758" style="border: 1px solid black; padding: 5px; text-align: center;"> <b>CAUTION</b>  RISK OF ELECTRIC SHOCK  DO NOT OPEN </div> 	CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
	THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.
	THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

# IMPORTANT SAFEGUARDS

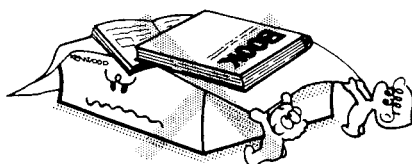
Please read all of the safety and operating instructions before operating this unit. For best results, follow all warnings placed on the unit and adhere to the operating and use instructions. These safety and operating instructions should be retained for future reference.

- 1. Power sources** – The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
- 2. Power-cord protection** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.

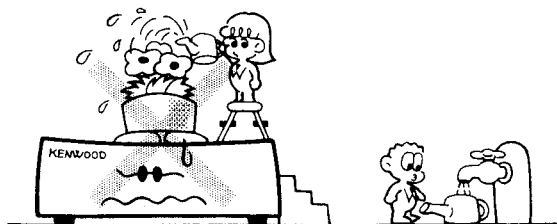
Never pull or stretch the cord.



- 3. Grounding or polarization** – The precautions should be taken so that the grounding or polarization means of this unit is not defeated.
- 4. Ventilation** – The unit should be situated so that its location or position does not interfere with its proper ventilation. To maintain good ventilation, do not put records or a table-cloth on the unit. Place the unit at least 10 cm away from the walls. Do not use the unit on a bed, sofa, rug or similar surface that may block the ventilation openings.

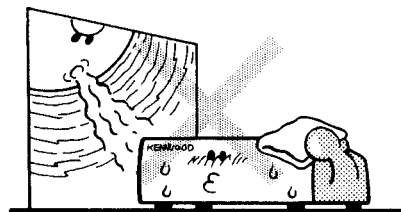


- 5. Water and moisture** – The unit should not be used near water - for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

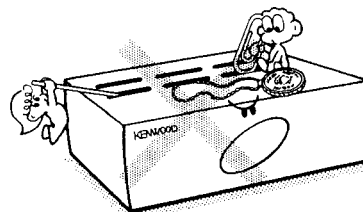


- 6. Temperature** – The unit may not function properly if used at extremely low, or freezing temperatures. The ideal ambient temperature is above +5°C (41°F).

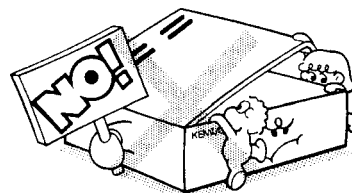
- 7. Heat** – The unit should be situated away from heat sources such as radiators, heat registers, stoves, or other units (including amplifiers) that produce heat.



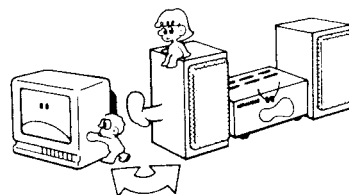
- 8. Electric shock** – Care should be taken so that object do not fall and liquid is not spilled into the enclosure through openings. If a metal object, such as a hair pin or a needle, comes into contact with the inside of this unit, a dangerous electric shock may result. For families with children, never permit children to put anything, especially metal, inside this unit.



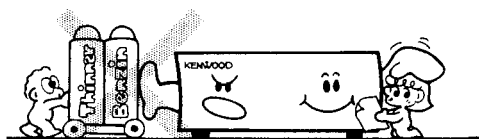
- 9. Enclosure removal** – Never remove the enclosure. If the internal parts are touched accidentally, a serious electric shock might occur.



- 10. Magnetic fields** – Keep the unit away from sources of magnetic fields such as TV sets, speaker systems, radios, motorized toys or magnetized objects.



- 11. Cleaning** – Do not use volatile solvents such as alcohol, paint thinner, gasoline, or benzine, etc. to clean the cabinet. Use a clean dry cloth.

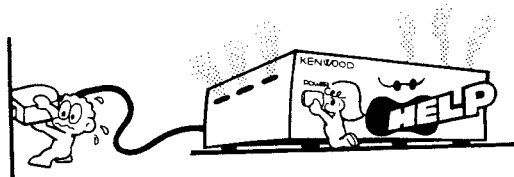


- 12. Carts and stands** – An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



- 13. Nonuse periods** – The power cord of the unit should be unplugged from the outlet when left unused for a long period of time.
- 14. Abnormal smell** – If an abnormal smell or smoke is detected, immediately turn the power OFF and pull out the power cord. Contact your dealer or nearest service center.

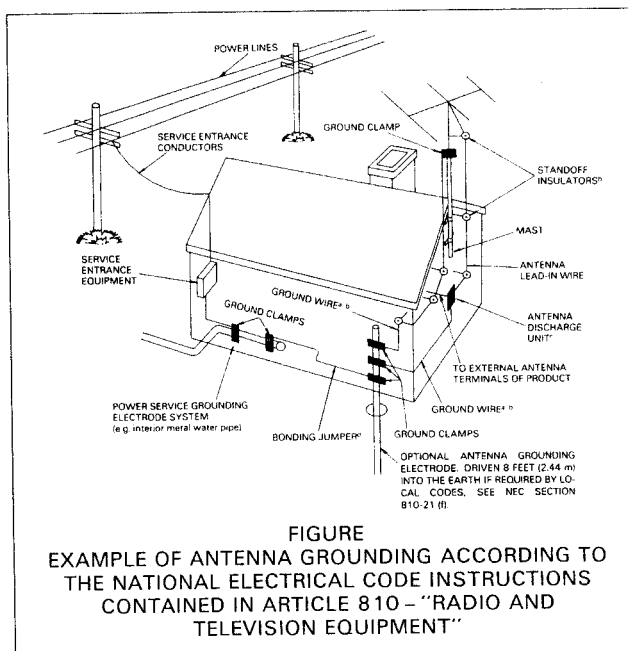
### POWER OFF!



- 15. Damage requiring service** – The unit should be serviced by qualified service personnel when:
- A.** The power-supply cord or the plug has been damaged; or
  - B.** Objects have fallen, or liquid has been spilled into the unit; or
  - C.** The unit has been exposed to rain; or
  - D.** The unit does not appear to operate normally or exhibits a marked change in performance; or
  - E.** The unit has been dropped, or the enclosure damaged.

- 16. Servicing** – The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

- 17. Outdoor antenna grounding** – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NFPA No. 70 – 1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure.



<sup>a</sup> Use No.10 AWG (5.3 mm<sup>2</sup>) copper, No.8 AWG (8.4 mm<sup>2</sup>) aluminum, No.17 AWG (1.0 mm<sup>2</sup>) copper-clad steel or bronze wire, or larger, as a ground wire.

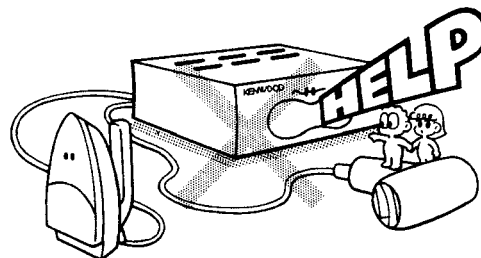
<sup>b</sup> Secure antenna lead-in and ground wires to house with stand-off insulators spaced from 4 – 6 feet (1.22 – 1.83 m) apart.

<sup>c</sup> Mount antenna discharge unit as close as possible to where lead-in enters house.

<sup>d</sup> Use jumper wire not smaller than No.6 AWG (13.3 mm<sup>2</sup>) copper, or the equivalent, when a separate antenna-grounding electrode is used. See NEC Section 810-21(f).

- 18. Power lines** – An outdoor antenna should be located away from power lines.

- 19. AC outlets** – Do not connect other audio equipment with a power consumption larger than that specified to the AC outlet on the rear panel. Never connect other electrical units, such as an iron or toaster, to it to prevent fire or electric shock.



The maximum capacities indicated for the AC outlets on the rear panel of this unit are as follows.

SWITCHED outlet: 200W

#### Notes:

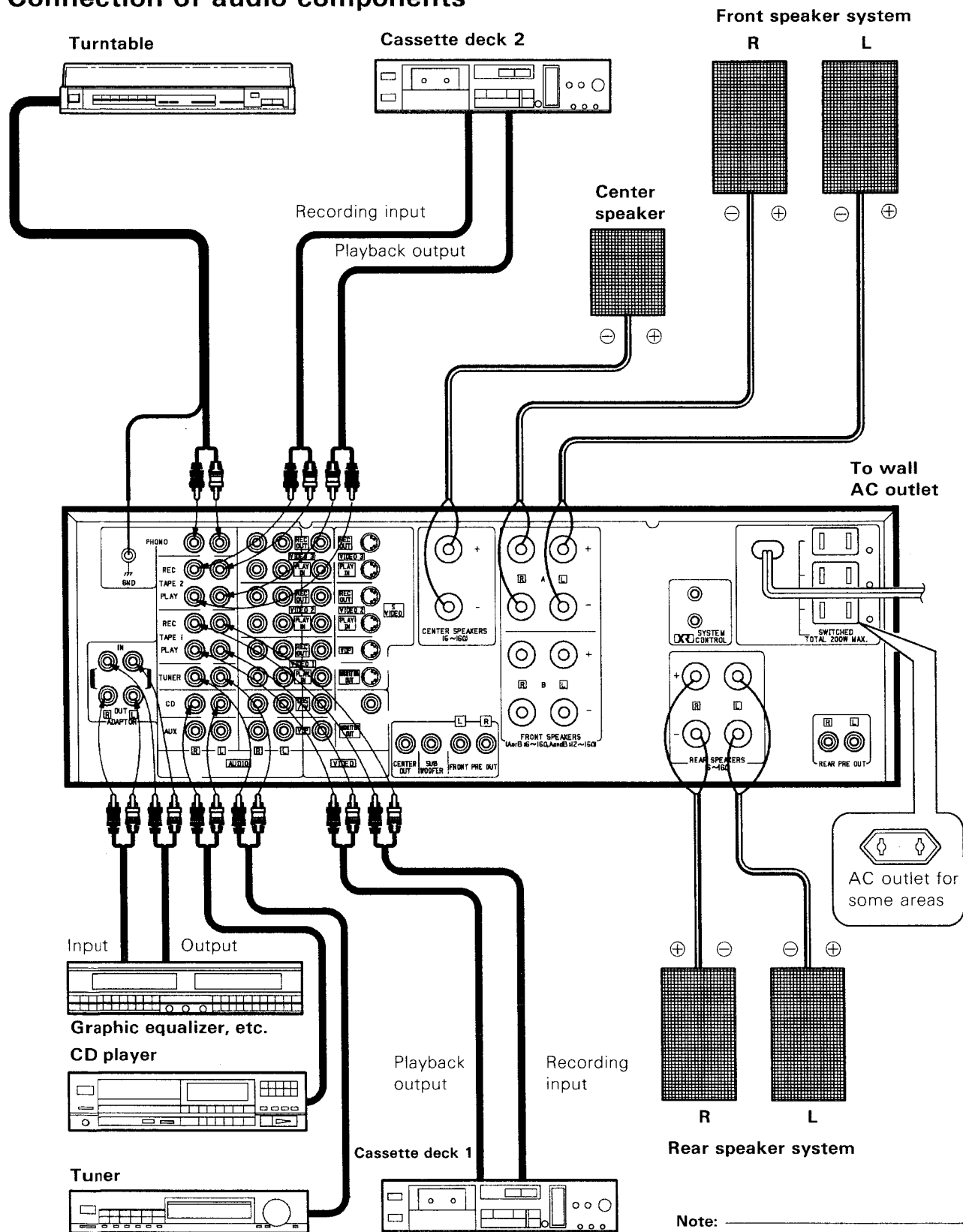
1. Item 3 is not required except for grounded or polarized equipment.
2. Item 17 and 18 are not required except for units provided with antenna terminals.
3. Item 17 complies with UL-1270 in the U.S.A.

# System connections

Make connections as shown in the diagram below.

When connecting the related system components, refer also to the instruction manuals of the related components.

## Connection of audio components



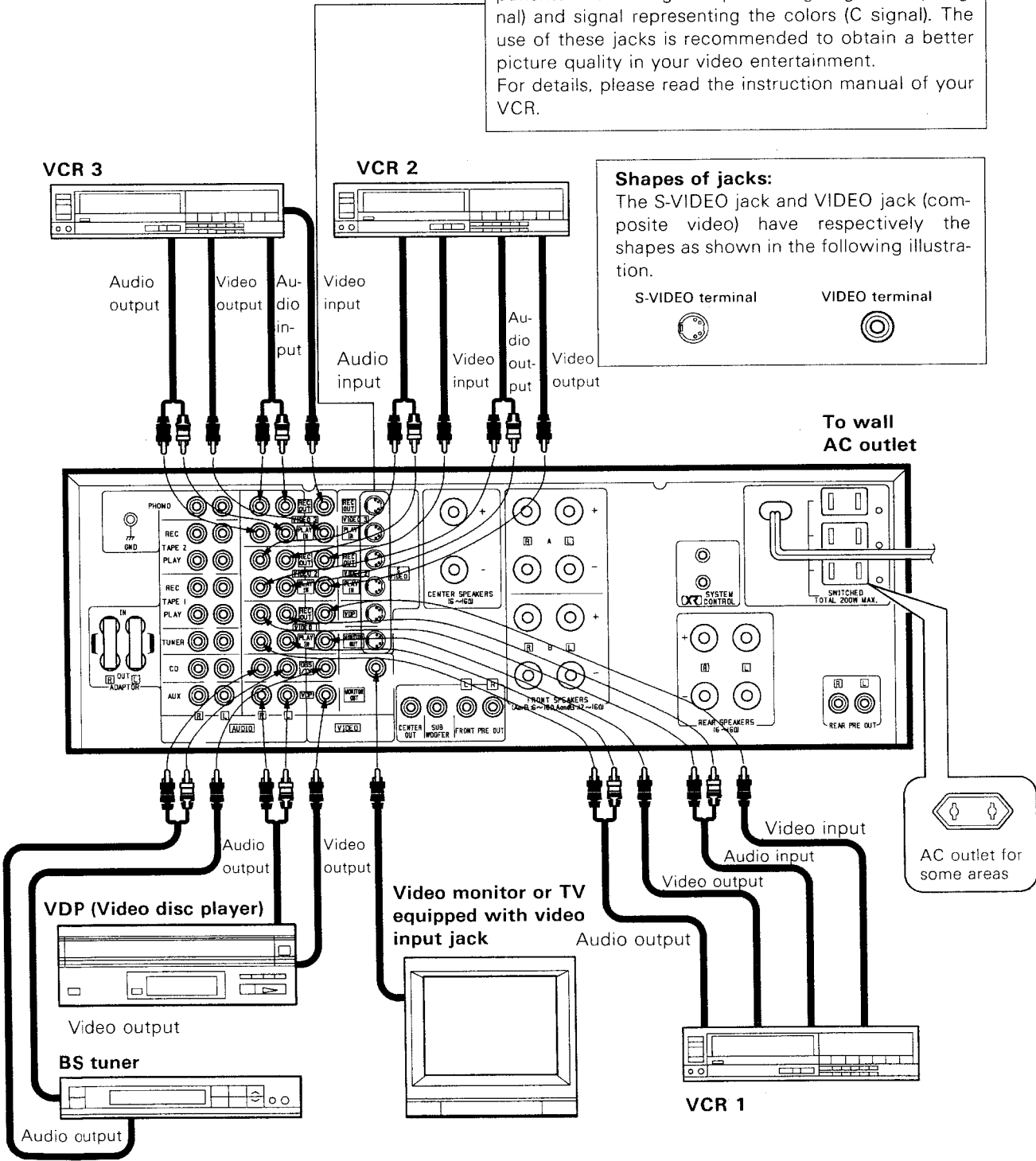
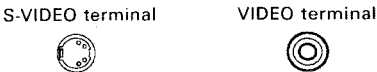
### Note:

When the graphic equalizer is not used, leave the shorting pins inserted into the ADAPTOR jacks.

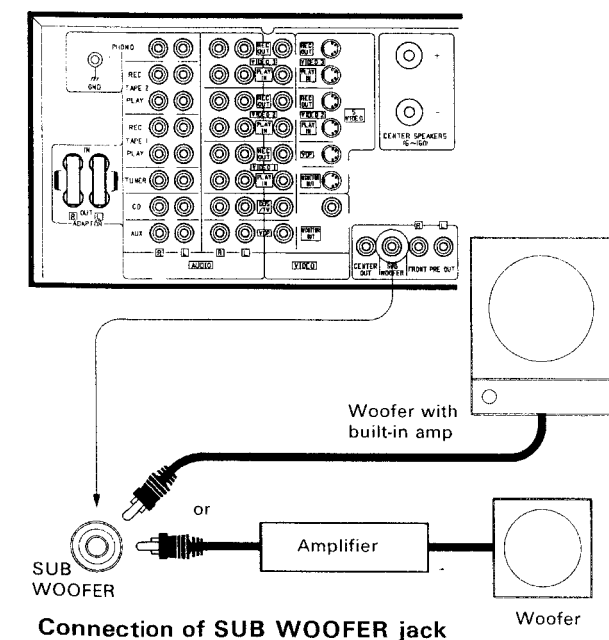
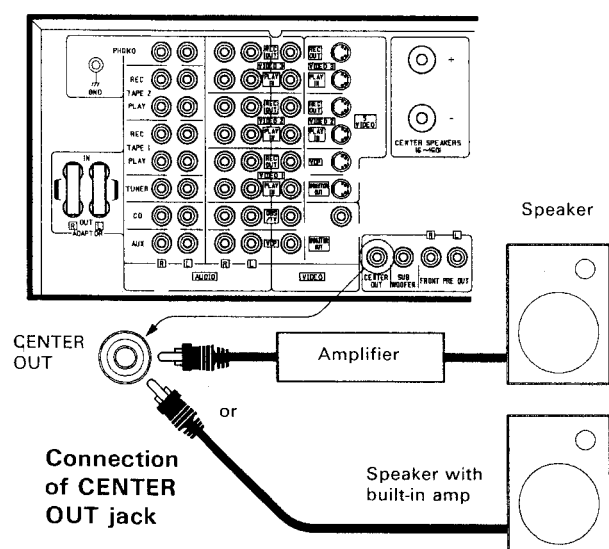
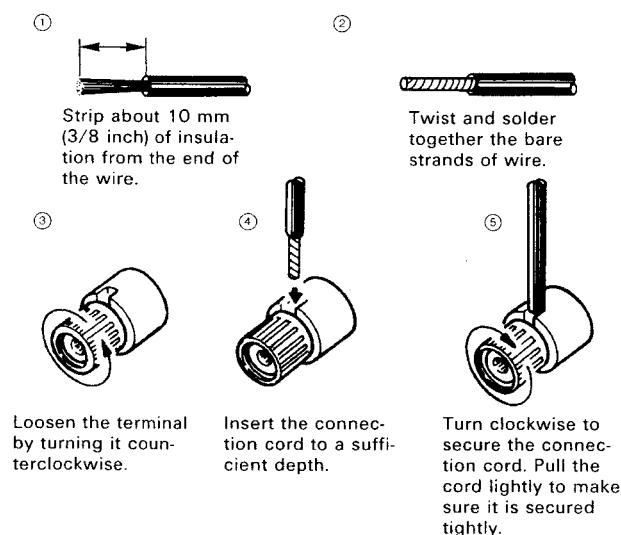
# Connection of video components

**S-VIDEO jacks:**  
The S-video signaling system transmits ordinary video signal (composite video signal) by separating its components into the signal representing brightness (Y signal) and signal representing the colors (C signal). The use of these jacks is recommended to obtain a better picture quality in your video entertainment. For details, please read the instruction manual of your VCR.

**Shapes of jacks:**  
The S-VIDEO jack and VIDEO jack (composite video) have respectively the shapes as shown in the following illustration.



## Connection to jacks and terminals



### ■ Caution concerning speaker connections

1. Set the POWER switch to OFF before connecting the speaker cords.
2. After connecting the lead wires, verify that they do not come into contact with other terminals.
3. Never short-circuit the (+) and (−) speaker cords.
4. Be sure not to inverse the left and right speaker connections or the (+) and (−) terminal polarity. This will cause the acoustic image of instruments to be unclear and the sound to be unnatural.

### ■ Speaker impedance

When connecting speakers using either the A or B speaker terminals (not both), use speakers with an impedance of 6-16 ohms.

When connecting speakers using both the A and B speaker terminals, use speakers with an impedance of 12-16 ohms. In this case, even if one speaker has an impedance of less than 12 ohms, damage to the amplifier may occur.

### ■ Connection of CENTER OUT jack

In addition to the CENTER SPEAKERS terminals, a CENTER OUT jack is provided on the rear panel of this unit. If you use an optional amplifier or a speaker with built-in amplifier, connect a speaker to this jack using an audio cord.

#### Note:

The output at the CENTER OUT jack is the LINE output. In case your speaker does not incorporate an amplifier, connect the CENTER OUT jack output to the AUX jack of an exclusive amplifier, and connect the speaker to the amplifier connected to the CENTER OUT jack.

### ■ Connection of FRONT PRE OUT jacks

To obtain more speaker effect with larger speakers, connect the FRONT PRE OUT jacks to an optional power amplifier and connect the front speakers to the power amplifier.

### ■ Connection of REAR PRE OUT jacks

The surround effect can be obtained with the built-in amplifier. To obtain more surround effect with larger speakers, connect the REAR PRE OUT jacks to an optional power amplifier and connect the rear speakers to the power amplifier.

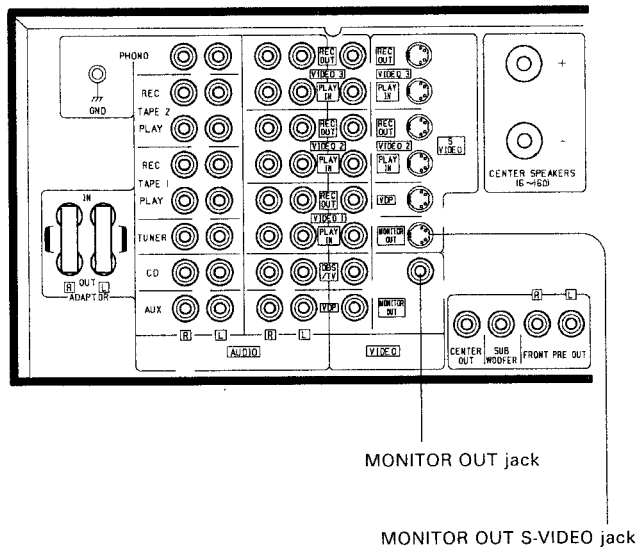
### ■ SUB WOOFER jack connection

A SUB WOOFER jack is provided on the rear panel of the unit. When connecting a sub-woofer or Super Woofer, connect it to this jack using an audio cord.

#### Note:

The output at the SUB WOOFER jack is the LINE output. If your sub-woofer or Super Woofer does not incorporate a built-in amplifier, connect the SUB WOOFER jack output to a special-purpose amplifier and connect the speaker to the amplifier connected to the SUB WOOFER jack.





## ■ Connection of monitor TV

Connect the video input jack of the monitor TV to the MONITOR OUT jack on the rear panel using a video connection cord.

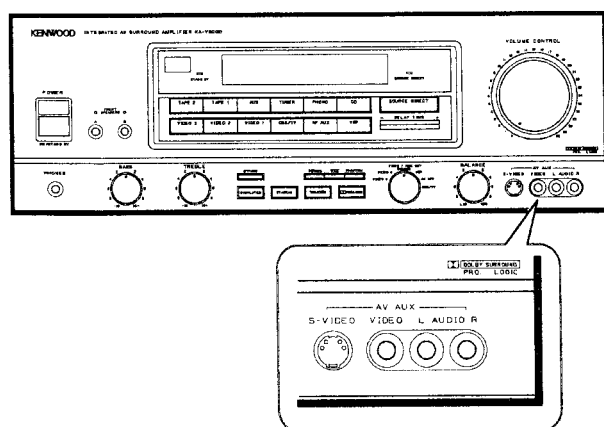
If the monitor TV is equipped with an S-VIDEO input jack, connect it to the S-VIDEO jack of this unit.

### Notes:

1. If the connection is made via the S-VIDEO jack, the features including the on-screen display is defeated.
2. Some TV accepts the S-VIDEO input in priority over the composite video input in case connection is made on both the S-VIDEO and composite VIDEO jacks. If on-screen display is required with such a TV with such a connection, disconnect its S-VIDEO jack.
3. When a video signal is input to this unit through the composite VIDEO jack, the same signal is not output from the S-VIDEO jack of the MONITOR OUT jacks.
4. When a video signal is input to this unit through the S-VIDEO jack, the same signal is not output from the MONITOR OUT video jack.

## ■ Caution concerning connection to video decks

The VIDEO 2 and VIDEO 3 inputs/outputs can be connected through the S-VIDEO jacks. Use an S-VIDEO cable when connecting to an S-VIDEO jack.



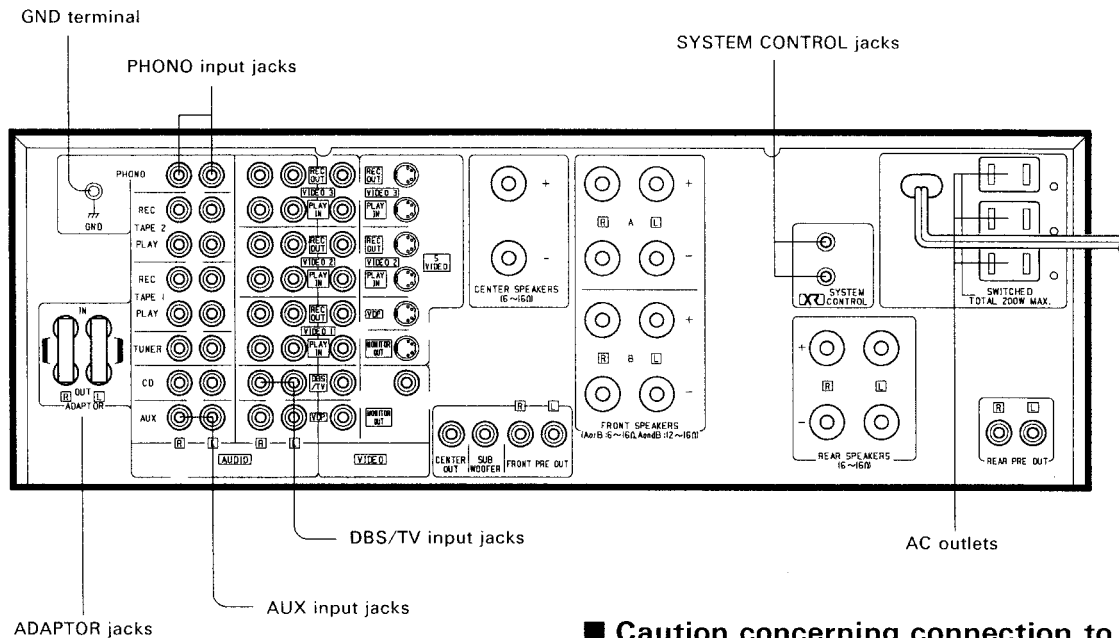
AV/AUX jack  
 { S-VIDEO  
 VIDEO  
 AUDIO, L/R }

## ■ Note concerning connection to video disc players

A video disc player can also be connected through an S-VIDEO jack. Use an S-VIDEO cable when connecting to an S-VIDEO jack.

## ■ AV AUX jacks

- The AV AUX jacks on the front panel include an S-VIDEO jack, allowing connection to be made using an S-VIDEO cable.



## ■ Caution concerning connection to DBS /TV jacks

Be sure to connect the audio cords to the analog output jacks of the DBS/TV tuner. If the cords are connected to the digital output jacks, this unit or the BS tuner may be damaged.

## ■ Connection of turntable unit

Connect a turntable equipped with an MM cartridge.

## ■ Connection to GND (ground) terminal

This terminal is for grounding use if a turntable is connected.

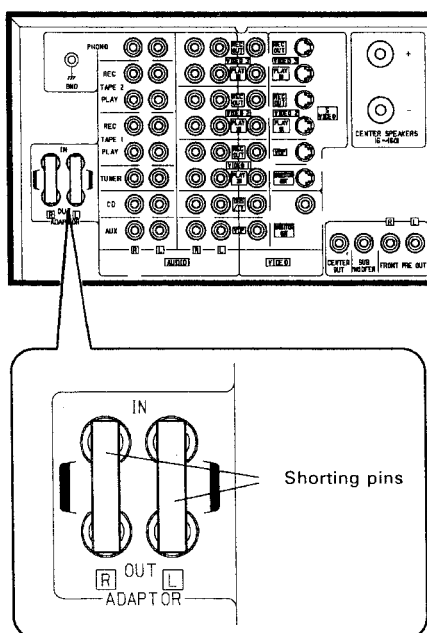
## ■ Connection to AUX input jacks

The auxiliary input jacks can be used for connecting an audio component such as a second tuner, etc.

## ■ ADAPTOR jacks on the rear panel

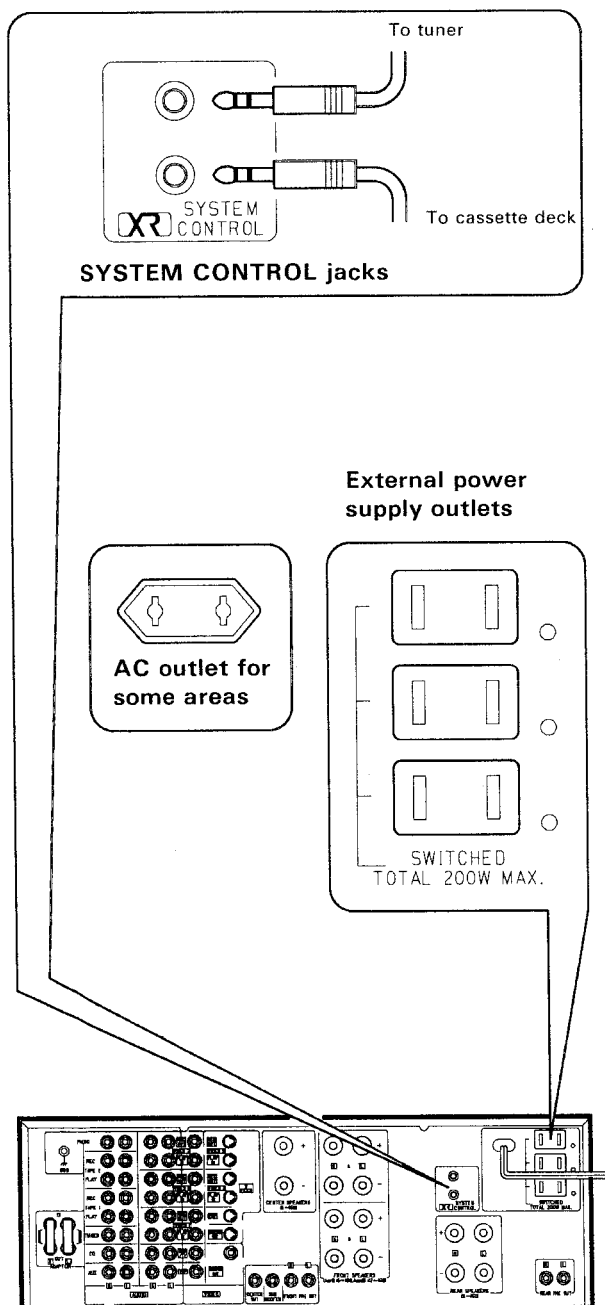
Use these jacks when a graphic equalizer, etc., is to be connected (refer to page 6).

When the ADAPTOR jacks are not used, be sure to insert shorting pins into them. No sound will be produced if nothing is inserted into these jacks.



## Note:

If the shorting pins are removed to allow use of the ADAPTOR jacks, do not insert the pins into other jacks, for this will cause damage to the unit. Please retain them together with the Warranty Card and Instruction Manual.



## ■ Connection to SYSTEM CONTROL jacks

These jacks are for use in controlling KENWOOD components as a system.

By connecting these jacks to the SYSTEM CONTROL jacks of compatible KENWOOD components using the system control cords, the following operations can be performed.

## Remote control

When the tuner, cassette deck and/or a CD player carrying the **XS** marking are connected to this unit via system control cords, all of the components can be remotely controlled with the remote control unit supplied with this unit.

## ■ External power supply outlets

SWITCHED outlets (total max. capacity 200W):

Connect the power plugs of the tuner, tape deck, turntable, or CD player to these outlets. By leaving the POWER switches of these components ON, they will be switched ON-OFF at the same time as the POWER switch of this unit. Never connect components having a total combined power consumption of more than total 200 W.

# Controls and indicators

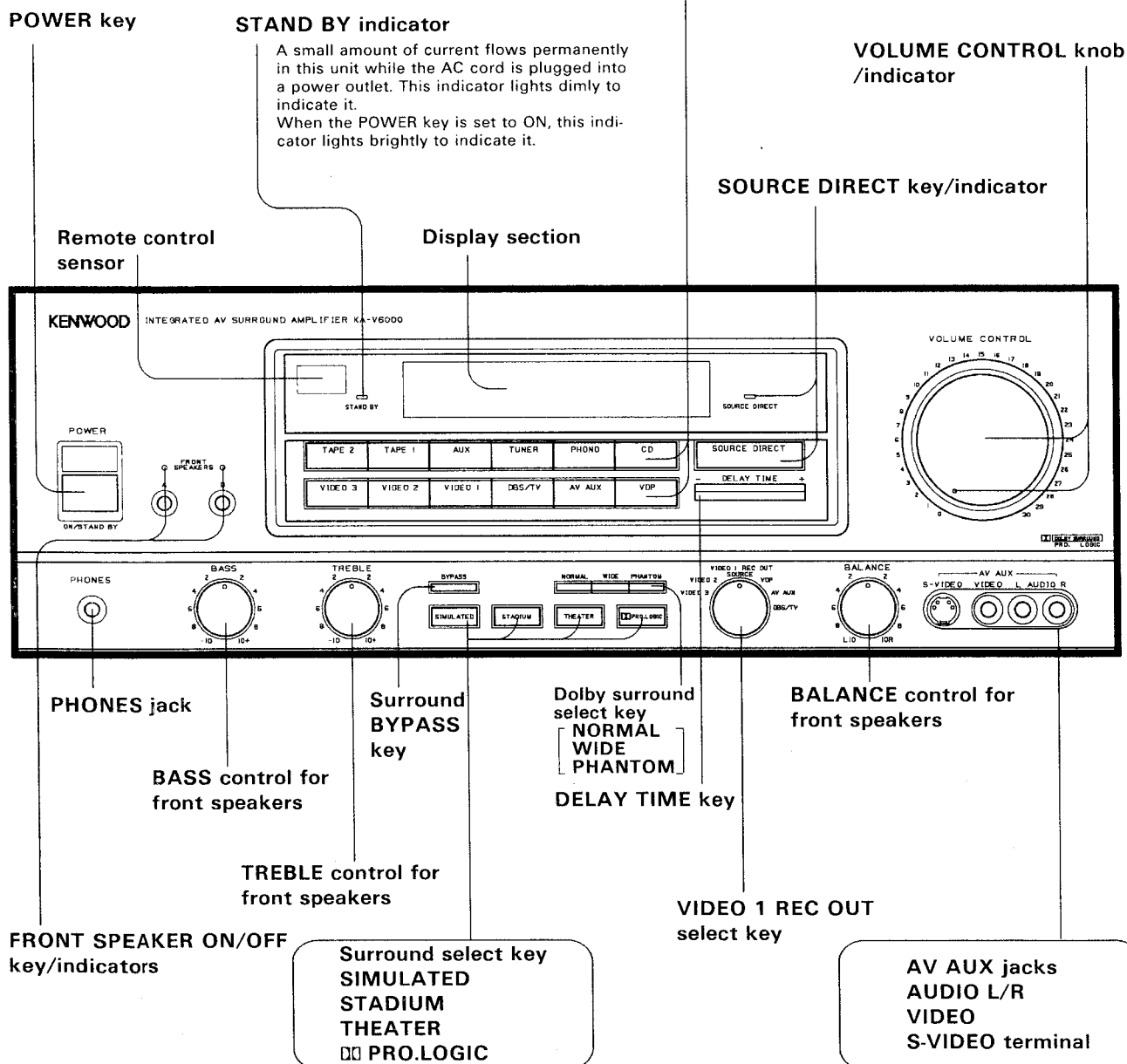
## Input selector keys

### Audio input selector keys

- CD:** For listening to CDs.  
**PHONO:** For listening to records.  
**TUNER:** For listening to radio broadcasts.  
**AUX:** For listening to the component connected to the AUX jacks on the rear panel.  
**TAPE1:** For listening to the tape deck connected to the TAPE1 jacks on the rear panel.  
**TAPE2:** For listening to the tape deck connected to the TAPE2 jacks on the rear panel.

## Video input selector keys

- VDP:** For playing the component connected to the VDP jacks on the rear panel.  
**AV/AUX:** For playing the auxiliary video component connected to the AV/AUX jacks.  
**DBS/TV:** For operating a DBS tuner or TV tuner.  
**VIDEO1:** For playing VCR 1.  
**VIDEO2:** For playing VCR 2.  
**VIDEO3:** For playing VCR 3.



# Remote control unit

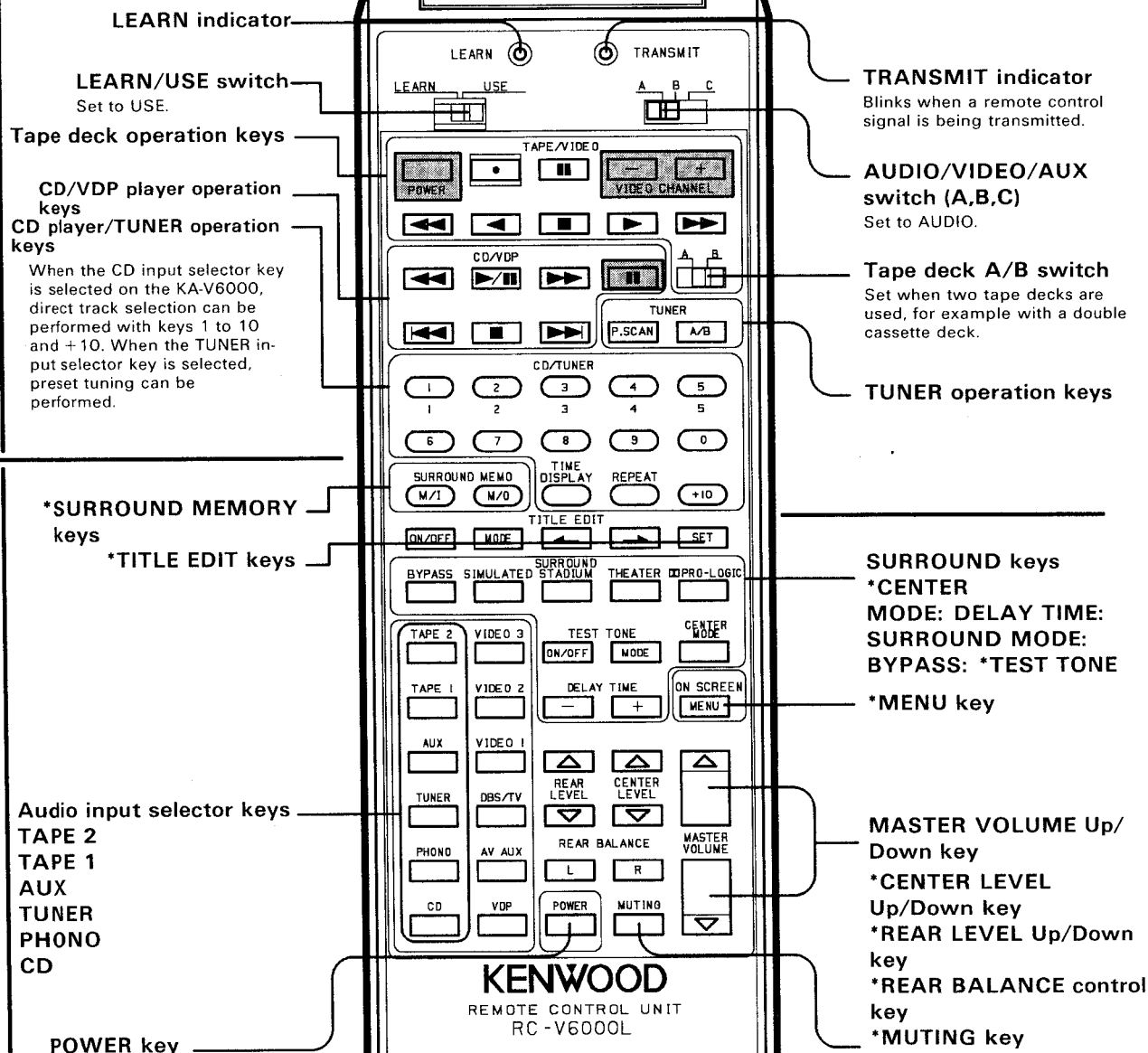
The supplied remote control unit is a "learning" remote control unit capable of programming the function signals used by the remote control units of other AV components.

## Names and functions of controls

### ■ Operation of audio components (1)

Remote control operation keys for KENWOOD products

Keys marked  are usable only when programmed.



**For KA-V6000**  
These operation keys have the same functions as those on the KA-V6000. Keys marked \* are only available on the remote control unit.

## ■ Operation of audio components (2)

(when components from manufactures other than KENWOOD are used)

### Remote control operation keys for non-KENWOOD audio components

#### Set to USE.

The remote control functions of other audio components can be programmed (stored) under these keys. For the programming method, refer to page 18.

#### \*SURROUND MEMO keys

##### M/I key:

Memory Input key. Press to save a Surround setting in memory.

##### M/O key:

Memory Output key. Press to recall a Surround setting from memory.

#### \*TITLE EDIT keys

ON/OFF key, MODE key: Press to move the character position to the left or right.

← key, → key:

Press to select a character.

#### SET key:

Press to establish a selected character.

#### BYPASS key

Press to turn off the Surround function.

#### \*TEST TONE keys

##### ON/OFF key:

Every time this key is pressed, the test tone is alternately switched ON and OFF.

##### MODE key:

Every time this key is pressed, the selected mode function changes in the following sequence: LCH, CENTER, RCH and REAR.

#### \*MUTING key:

Press to mute the sound. To cancel muting, press this key again.

Set to A (AUDIO).

#### Tape deck A/B switch

Set when two tape decks are used, for example with a double cassette deck.

□ PRO-LOGIC key  
THEATER key  
STADIUM key  
SIMULATED key

SURROUND  
MODE keys

#### \*CENTER MODE key

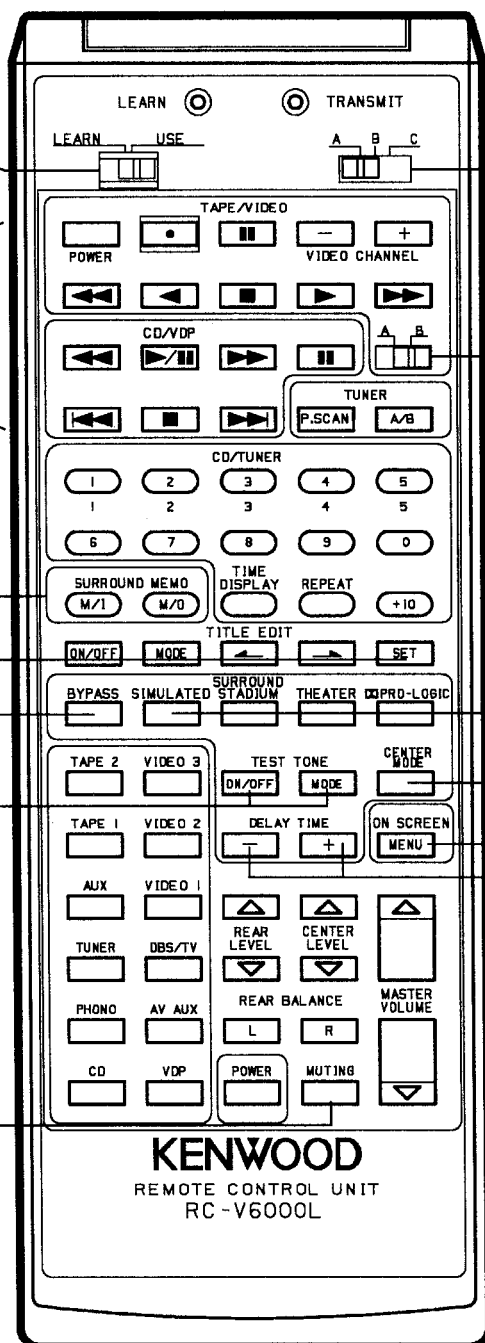
Every time this key is pressed, the center mode is switched between NORMAL, WIDE and PHANTOM, in cyclical sequence.

#### \*MENU key

Press to display the various operating conditions on the screen of the monitor TV.

#### DELAY TIME key

Press to set the delay time (delay on the rear speaker output with respect to the front speaker output) as desired.



### For KA-V6000

Keys marked \* are only available on the remote control unit.

## ■ Operation of video components

### Remote control operation keys for video components

Set to USE.

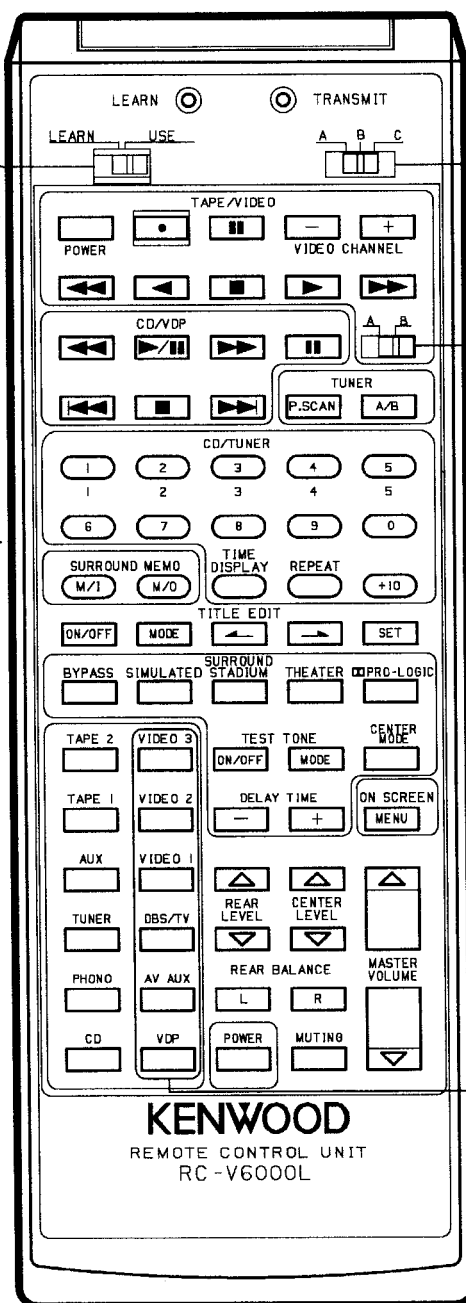
The remote control functions of video components can be programmed (stored) under these keys. For the programming method, refer to page 18.

Set to B (VIDEO).

The unit enters video mode, although the audio keys can still be operated.

A/B select key

When two VCRs are used, press to select deck A or B.



Video input selector keys  
VIDEO 3  
VIDEO 2  
VIDEO 1  
DBS/TV  
AV AUX  
VDP

KA-V6000 operation keys

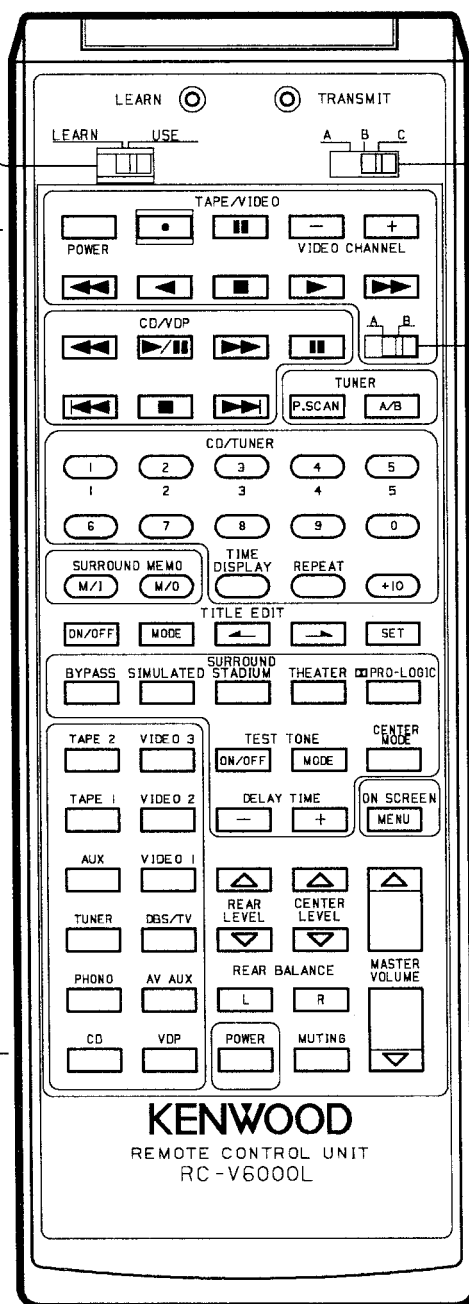
## ■ Operation in AUX mode

(When all keys are used as programmable keys)

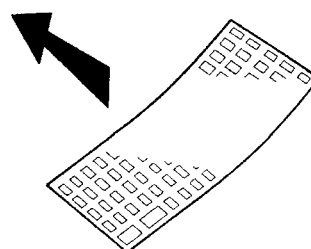
Set to USE.

Set to C (AUX).

All keys become "learning" (programmable) keys, and the remote control functions of other audio/video components can be programmed (stored) under these keys. For the programming method, refer to page 18.

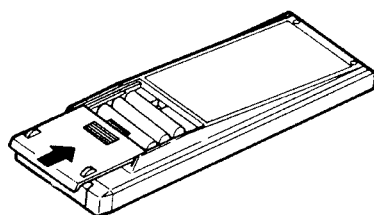
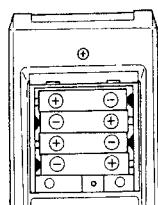
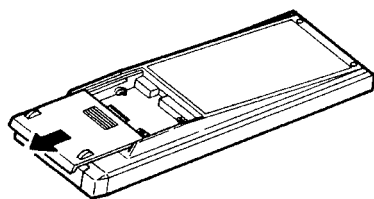


This key is not valid when the AUDIO/VIDEO/AUX switch is set to "C".



It is recommended to write the programmed functions on the supplied remote control unit entry sheet and place it on the unit.





## ■ Loading batteries into the remote control unit

1. Remove the battery cover.  
While gently pressing the battery cover located on the rear of the remote control unit, slide it in the direction of the arrow.

2. Insert the provided batteries. Take care to respect the battery polarity (+, -), and be sure to close the cover after inserting.

### Note:

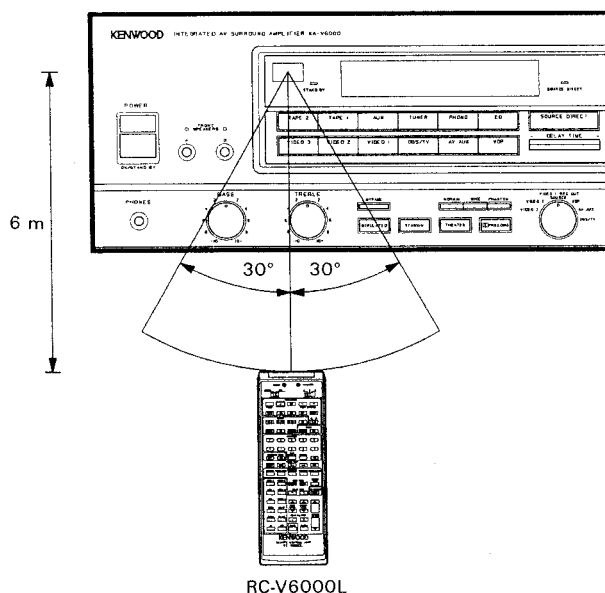
The batteries provided are to be used for checking the remote control operations. Their service life may be short.

## ■ Replacing batteries

1. If the TRANSMIT indicator does not light even when the operation key is pressed, the batteries are exhausted.  
Replace the batteries. We recommend that the alkaline batteries (LR03/AM-4) which have longer service life be used.
2. The programmed contents are not immediately lost when the batteries are removed for replacement. However, they could be lost if the unit is left without batteries for more than 3 minutes. In such a case, the programming should be performed again. The function signals of the non-learning, or fixed keys are not lost even in this case.

### Note:

Avoid using old and new batteries together, as this may cause corrosion.



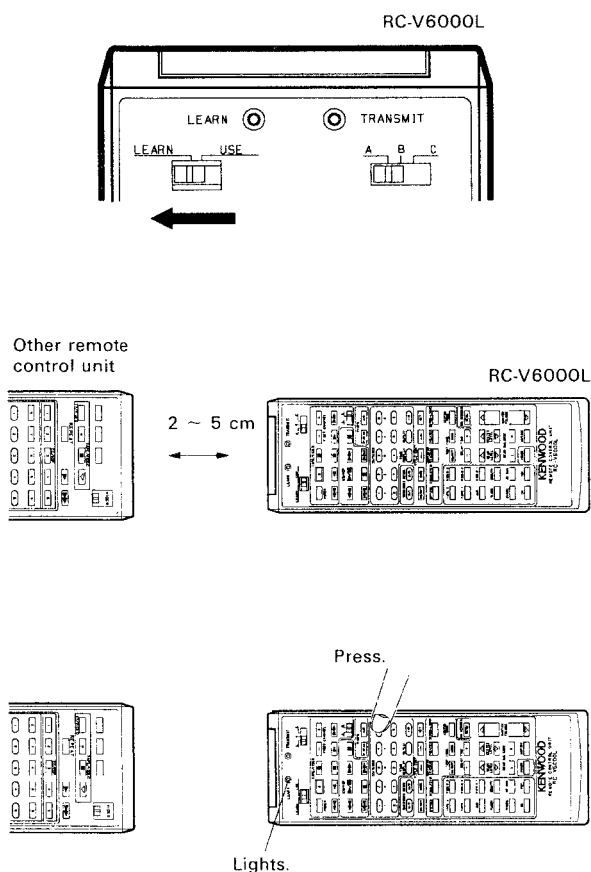
## ■ Operating range of the remote control unit

The normal operating range may change depending on temperature, humidity, and other environmental conditions, but it is roughly specified as shown in the figure on the left.

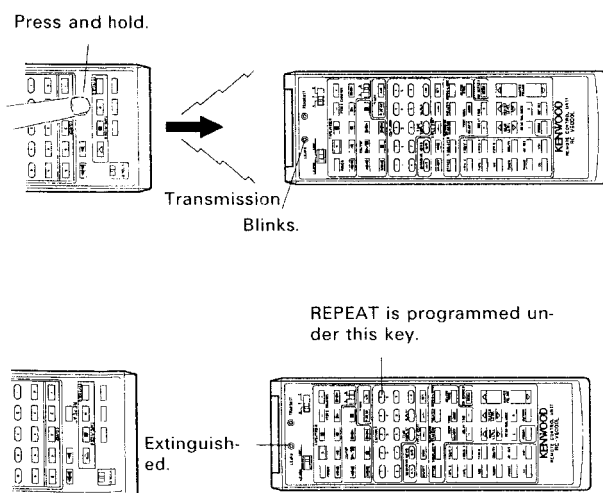
### Note:

If two or more remote control operation keys are to be pressed successively, press each key securely and leave an interval of more than 1 second between presses.  
Pressing a key immediately after pressing another key may cause malfunction.

## ■ How to program the remote control functions of other components under the "learning" keys of the RC-V6000L remote control unit.



Example: To program the REPEAT function signal of the other remote control unit in this remote control unit (RC-V6000L):



1. Set the LEARN/USE switch to LEARN.  
Set the AUDIO/VIDEO/AUX switch (A/B/C) to the required position.

2. Place the remote control unit of another component with this remote control unit (RC-V6000L) so that their heads (signal transmitters) face each other (at a distance of 2 to 5 cm, or 0.8 to 2 inches).

3. Press the learning key of the RC-V6000L under which you want to program the function signal.  
The LEARN indicator will light up.

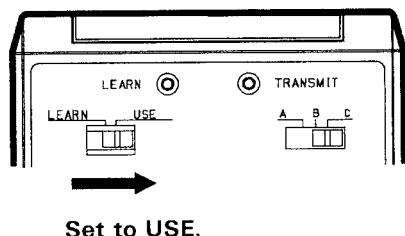
4. Within 30 seconds after pressing the key above, press the key of the other remote control unit which contains the function to be programmed (stored).  
The LEARN indicator changes from steady lighting to blinking, indicating that the function signal is being programmed.

5. When the LEARN indicator blinks twice then goes off, it indicates that the signal has been programmed (stored). Release your finger from the key of the other remote control unit.

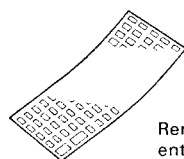
### Note:

Be sure to hold the key of the other remote control unit depressed until the LEARN indicator goes out.

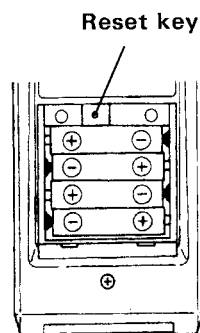
- To program (store) another function signal under another key, repeat steps 3 to 5 above.



Set to USE.



Remote control unit entry sheet



### ■ To check the programmed (stored) contents

1. Verify that the LEARN/USE switch is set to USE.
2. Press the key you want to check the function of.
3. Check to see if the intended function is activated.

### ■ To change the programmed (stored) contents

Re-start the programming operation. The previously-programmed contents are cleared automatically and replaced by the newly-programmed contents.

### ■ To perform normal remote control operation

1. Set the LEARN/USE switch to USE.
2. Press the "learning" key under which the required function signal has been programmed. The TRANSMIT indicator lights and the remote control function is performed.

### ■ Remote control unit entry sheet

It is recommended to write the programmed functions on the supplied remote control unit entry sheet.

Use an oil-link felt pen or pencil. To erase, rub strongly with an ordinary eraser.

### ■ To clear the whole of the programmed (saved) contents

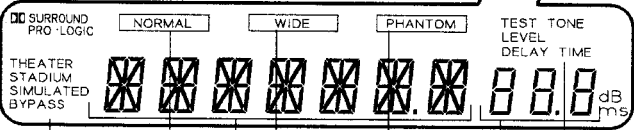
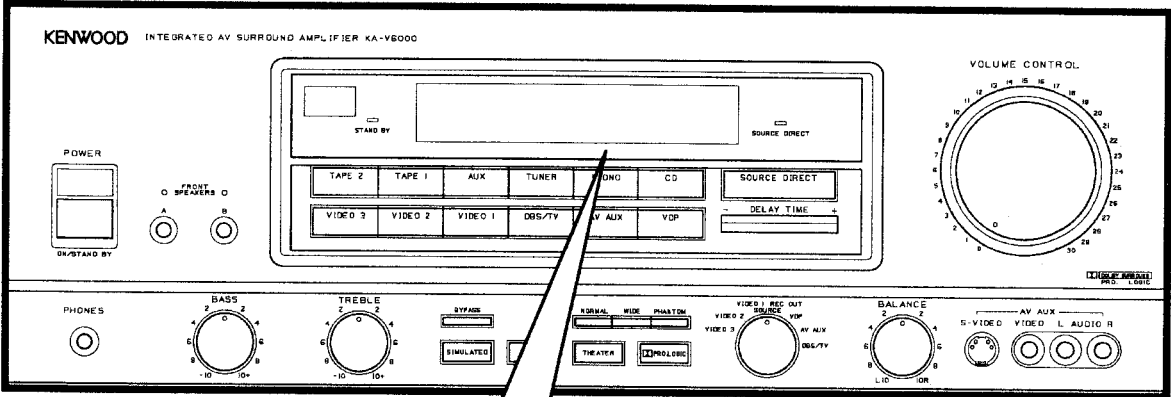
The contents of all "learning" keys programmed in all modes (both audio and visual) can be cleared at once.

1. Set the LEARN/USE switch to LEARN.
2. Press one of the "learning" keys.
  - The LEARN indicator lights up.
3. Remove the battery case cover on the rear of the remote control unit.
4. Press the Reset key inside the battery case with a ball-point pen tip, etc..
  - All of the previously-programmed contents are cleared simultaneously, and the remote control unit is reset to the initial condition.

Almost all of the remote control systems used with other AV components use the same infrared system as this unit. This means that this unit is capable of programming the functions of almost all remote-controllable components. Before programming, please read carefully the instruction manuals of other AV components as well as this Instruction Manual.

#### Notes:

1. If the optical output power of the other remote control unit is too large, programming could fail. In such a case, place the remote control unit at a greater distance from this remote control unit.
2. If both the LEARN indicator and TRANSMIT indicator blink simultaneously, either the key is not a "learning" key which can be used for programming or the current programming is incomplete. In such cases, program the function again under a "learning" key.
3. Programming is also impossible if the other remote control unit uses a signal format other than the infrared system, if it uses a special signal modulation format, or if the storage capacity of this unit has become full.
4. 30 seconds after a "learning" key is pressed, the LEARN indicator goes from on to off (extinguished). As programming is impossible while the indicator is off, press the "learning" key again to light the indicator.
5. If more than one "learning" key is pressed, the function signal is programmed under the last pressed key.
6. Never attempt to program (store) the remote control functions of appliances other than A/V components, such as air conditioners.



Surround mode indicators

Dolby Pro Logic mode indicators

Input mode display and memory display.  
Channel display during test tone output.

Rear level display  
Center level display  
Delay time display

■ Function of the display panel

When an operation key is pressed, the resulting operation is indicated on the display.

Examples of display

	When "VDP" is selected by the input SELECTOR key
	When the MEMORY [M/I] key of the remote control unit is pressed
	When the TEST TONE key of the remote control unit is pressed (This occurs only in the Dolby Surround modes.)

# On-screen character display

Every time the **SELECTOR** switch is turned to another position, the on-screen character display appears on the monitor TV screen for about 5 seconds.

When the **MENU** key of the remote control unit is pressed, the information on the current modes (selector position, Surround mode, input list, Surround memory title list, etc.) can be checked by the on-screen display.

It is also possible to switch the on-screen character display on and off.

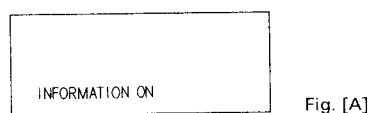


Fig. [A]

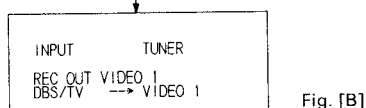


Fig. [B]

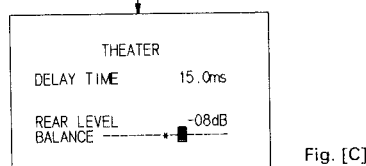


Fig. [C]

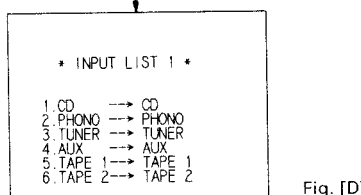


Fig. [D]

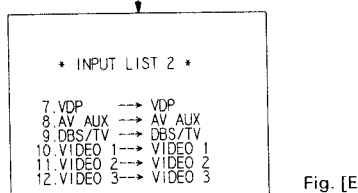


Fig. [E]

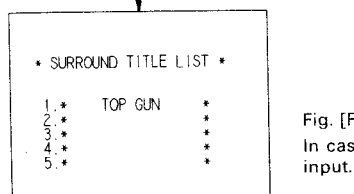


Fig. [F]

In case "Top Gun" is input.

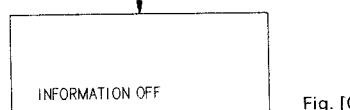


Fig. [G]

## ■ To check the current mode information

1. With normal picture displayed on the screen, press the **MENU** key on the remote control unit.
  - The TV screen changes to the condition shown in Fig. (A).
2. With the screen display above, press the **MENU** key again.
  - Every time the key is pressed, the display changes from Fig. (A) to Fig. (G) repeatedly in cycle.
3. When the **MENU** key is pressed while the screen display is a shown in Fig. (F), the display changes to Fig. (G) and the on-screen character display is canceled.

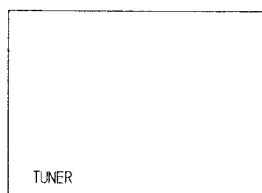
### Notes:

1. On-screen displays shown in Fig. [A] and Fig. [G] remains for about 1.5 second. Other displays will not change until the **MENU** key is pressed.
2. If the above cycle is terminated with "INFORMATION OFF" display, the on-screen character display will not appear in later operations.
3. If it is required to have on-screen character display afterward, terminate the cycle with "INFORMATION ON".

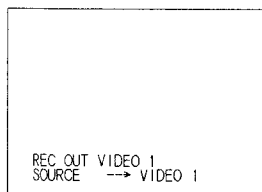
To obtain the on-screen character display, connect a monitor TV to the VIDEO output jack.

The on-screen character display is not available in case the connection is made through the S-VIDEO jacks.

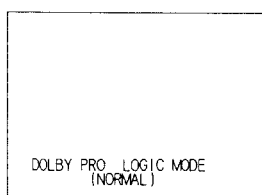
If the connection to the monitor TV is made via the S-VIDEO jack on the rear panel, the on-screen display is defeated. To obtain this function, connect the monitor TV via the MONITOR OUT jack.



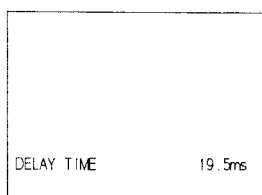
① INPUT display



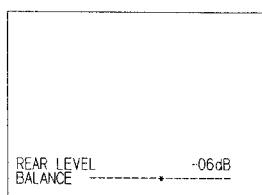
② VIDEO 1 REC OUT display



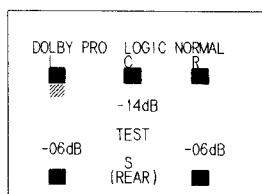
① Surround mode display



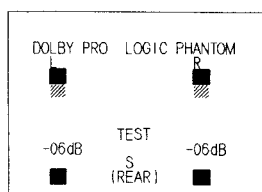
② Delay time display



③ Rear level display



In NORMAL and WIDE modes of Dolby Pro Logic



In PHANTOM mode

## 1. Input mode displays

- ① The source selected with the SELECTOR switch is displayed.
  - If no other video signal is input to the monitor TV, its screen background becomes:
    - Audio input → Green background
    - Video input → Blue background
- ② The source being output at the VIDEO 1 REC jack is displayed.
  - If no other video signal is input to the monitor TV, its screen background becomes pink.

## 2. Surround displays

- ① The Surround mode selected by the SURROUND mode key is displayed.
- ② The delay time is displayed in 1.5 ms steps.
- ③ The rear level and the balance of the Surround mode are displayed.
- ④ The CENTER level is displayed in the NORMAL and WIDE modes of Dolby Pro Logic.

## 3. Test tone display

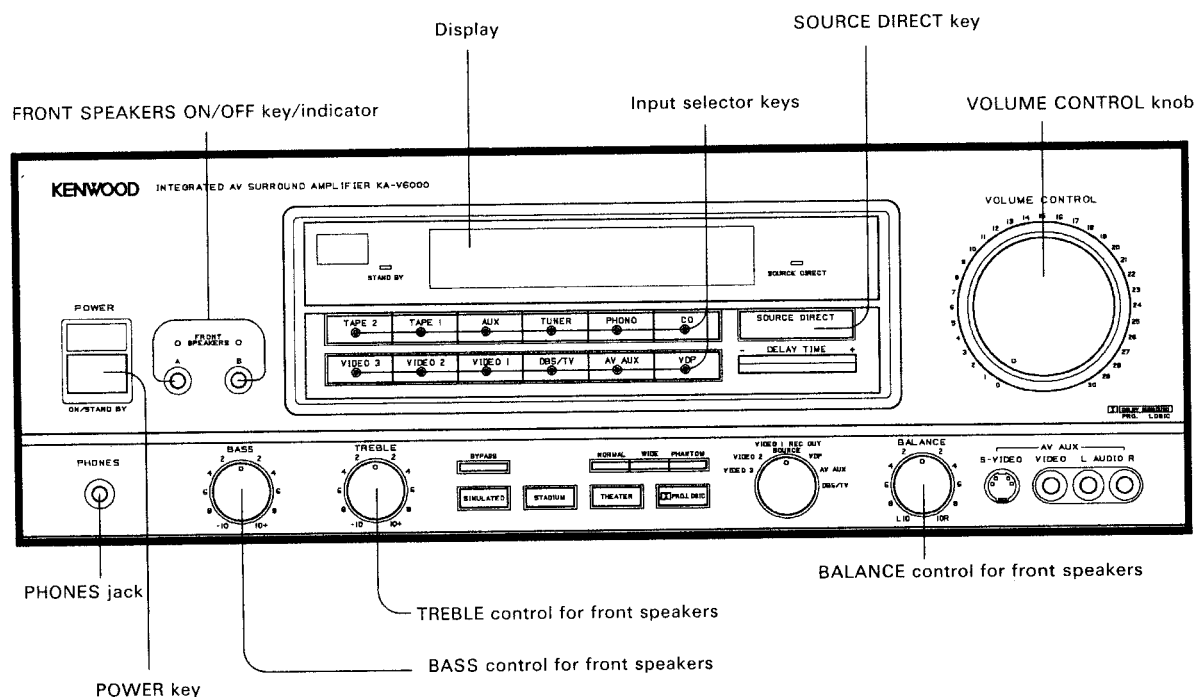
In the Test mode of Dolby Pro Logic, the positions of the speakers through which the test tone is output are displayed.

L :Left (Front)  
 C :Center (Front)  
 R :Right (Front)  
 REAR :Surround (Rear)

L/R :Left/Right (Front)  
 REAR :Surround (Rear)

# Operating instructions

## Playback an audio component



### ■ Basic operation procedure

1. Press the POWER key to ON.
  - The indicator lights up and the unit enters operation mode.
  - Pressing the key again switches the power OFF.
2. Press the desired input selector key to select the input source.
  - The available audio-component inputs are TAPE2, TAPE1, AUX, TUNER, PHONO, and CD.
  - The available video-component inputs are VIDEO3, VIDEO2, VIDEO1, DBS/TV, AV AUX and VDP.
3. Adjust the volume by turning the VOLUME CONTROL knob.
4. Adjust the low frequencies by turning the BASS control, and adjust the high frequencies by turning the TREBLE control.
  - The adjustments in this step are invalid when SOURCE DIRECT key is ON.
5. Adjust the left-and-right sound balance by turning the BALANCE control.
  - The adjustments in this step are invalid when SOURCE DIRECT key is ON.

#### STAND-BY position of the POWER key

When the power cord of this unit is connected to an AC outlet, the stand-by indicator lights up regardless of the setting of the POWER key to retain the memory contents.

This condition is so called stand-by mode. When the stand-by indicator is lit, the power of the unit can be turned ON/OFF with the remote controller.

### ■ How to play an audio source

(For Surround playback, refer to "Surround effects" on page 28.)

1. Set the VOLUME CONTROL to the minimum (fully counter-clockwise) position.
2. Press the POWER key to ON.
3. Press the FRONT SPEAKERS key to ON.
4. Press the desired input selector key.
5. Play the selected input component.
6. Adjust the volume with the VOLUME CONTROL.
7. Adjust the BALANCE, TREBLE, and BASS controls as desired.

### ■ How to listen through headphones

1. Insert the headphone plug into the PHONES jack.
2. Press the FRONT SPEAKERS key to OFF.
3. When sub-woofers and/or Surround speakers are used, switch OFF the power of the sub-woofers and/or press the BYPASS key to activate the Bypass mode.

### ■ SOURCE DIRECT key

When the SOURCE DIRECT key is pressed to ON (so that the indicator above it lights) in the Bypass mode, the sound signal bypasses the tone control (BASS, TREBLE) and the balance circuitry.

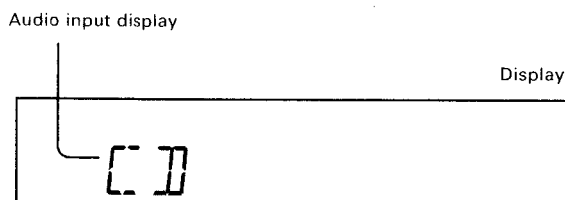
In this case, the tone cannot be adjusted, but a flat frequency response can be obtained.

#### Note:

The SOURCE DIRECT function is canceled automatically when one of the Surround modes is selected.

## Recording an audio source

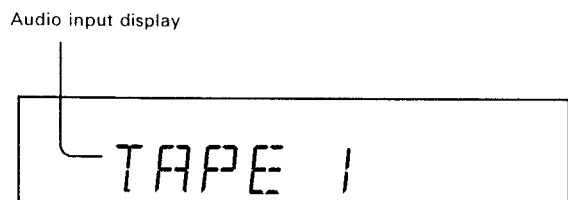
### When CD is selected



### ■ How to record sound on cassette decks connected to the TAPE1 and TAPE2 jacks

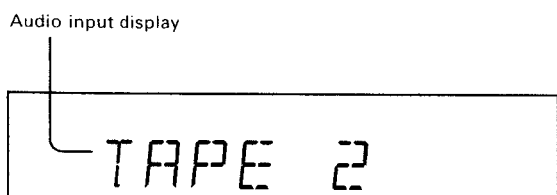
1. Press the POWER key to ON.
2. Press the desired input selector key to select the recording source.
3. Play the selected component and, at the same time, start recording on cassette decks 1 and 2 (Record mode).

## Dubbing an audio source



### ■ How to dub sound from cassette deck 1 (connected to the TAPE1 jacks) to cassette deck 2 (connected to the TAPE2 jacks)

1. Press the POWER key to ON.
2. Press the TAPE1 input selector key.
3. Start recording on cassette deck 2 (Record mode), then immediately start playing cassette deck 1 (Play mode).
  - The sound output from cassette deck 1 can be monitored during dubbing.



### ■ How to dub sound from cassette deck 2 (connected to the TAPE2 jacks) to cassette deck 1 (connected to the TAPE1 jacks)

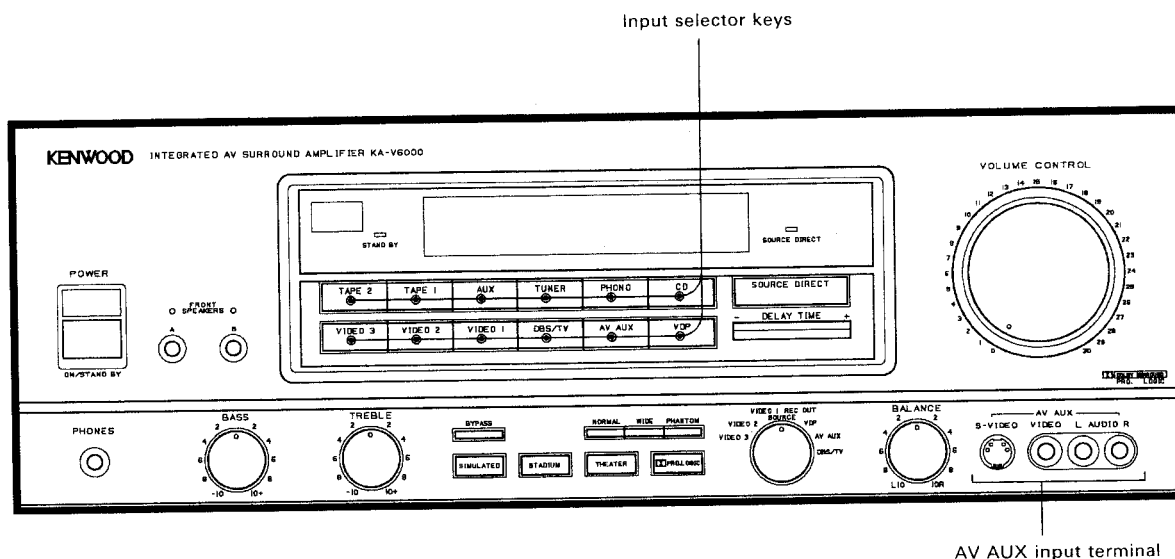
1. Press the POWER key to ON.
2. Press the TAPE2 input selector key.
3. Start recording on cassette deck 1 (Record mode), then immediately start playing cassette deck 2 (Play mode).
  - The sound output from cassette deck 2 can be monitored during dubbing.

### Notes:

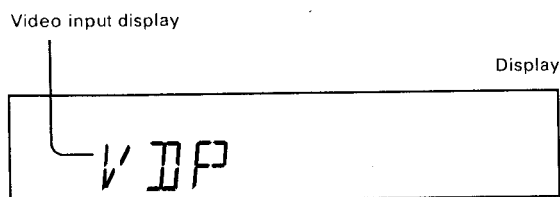
1. If the selected dubbing source is a video component, only its sound will be recorded on the cassette tape.
2. The signal dubbed or recorded on the cassette decks cannot be processed by the Surround or tone control circuitry.



## Playing back a video source



### When VDP is selected

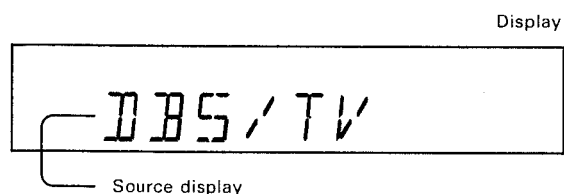


### ■ How to play a video source

(For Surround playback, refer to "Surround effects" on page 28.)

1. Press the POWER switch to ON.
2. Switch ON the power of the monitor TV connected to the MONITOR OUT jacks.
  - If the monitor TV is equipped with the S-VIDEO jack, the monitor TV and this unit can be connected using both the video cord and S-VIDEO cord. However, some monitor TV is automatically switched to the S-VIDEO input if both connections are made and, as a result, the on-screen character display does not appear. If you want the on-screen character display in such a case, unplug the S-VIDEO cable and use only the composite video input.
3. Press the input selector key corresponding to the component to be played.
4. Play the video component.
5. The video is played back on the monitor TV screen, and the audio is played through the speakers.
6. The audio operation procedure is the same as that described in "How to play an audio source" on page 23.

## Recording a video source



### ■ How to dub audio/video to the VCR connected to the VIDEO1 jacks

1. Press the POWER key to ON.
2. Set the VIDEO 1 REC OUT selector to SOURCE.
3. Select the source to be recorded by pressing its input selector key.
4. Play the selected source component and, at the same time, start recording on VCR 1 (Record mode).
  - The VIDEO 1 output can be recorded independently from the source being played. For details, please refer to page 27.

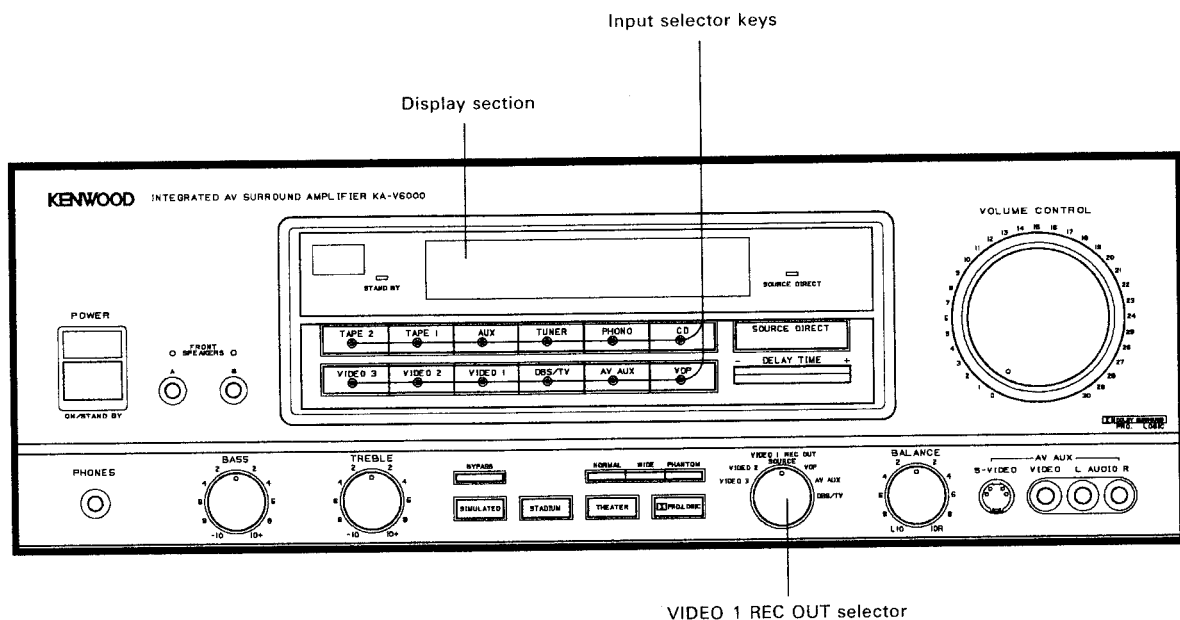
### ■ How to dub audio/video to the VCR connected to the VIDEO2 jacks

1. Press the POWER key to ON.
2. Set the VIDEO 1 REC OUT selector to the position other than VIDEO 2.
3. Press the desired input selector key to select the dubbing source.
4. Play the selected source component and, at the same time, start recording on VCR 2 (Record mode).
  - The source being dubbed can be monitored on the monitor TV during dubbing.

### ■ How to dub audio/video to the VCR connected to the VIDEO3 jack

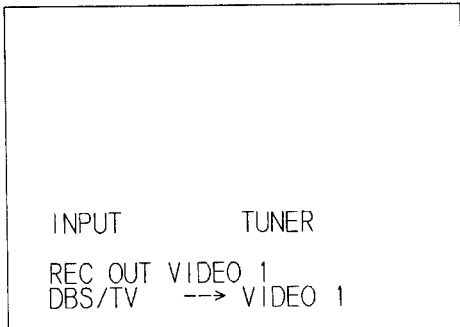
1. Press the POWER key to ON.
2. Set the VIDEO 1 REC OUT selector to the position other than VIDEO 3.
3. Select the source to be recorded by the input selector keys.
4. Play the selected source component and, at the same time, start recording on VCR 3 (Record mode).

## Independent audio/video recording



### Example of on-screen character display

When DBS/TV is recorded to VIDEO 1 while listening to the TUNER input



### ■ How to record audio/video independently from the source being played

The VIDEO1 REC OUT selector of this unit allows to record the audio/video signals onto a component connected to VIDEO1 independently from the source selected for playback.

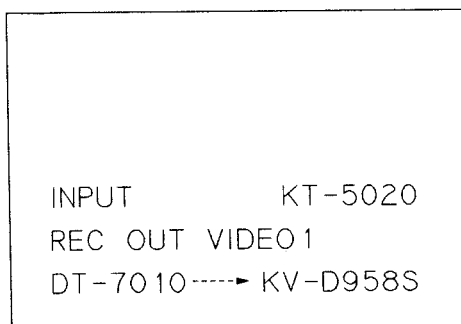
1. Select the source to be played back by the input selector keys.
2. Play the selected source.
3. Select the source to be recorded by the VIDEO1 REC OUT selector.
4. Put the component connected to the VIDEO1 output in the record mode.
  - Another source to be played can be selected without affecting the source being recorded.

#### Note:

If the VIDEO1 REC OUT selector is set to VIDEO2 or VIDEO3 while VIDEO1 has been selected by the input selector keys, characters "VIDEO1" on the display blinks. In this case, select other source than VIDEO1 by the input selector keys and try again.

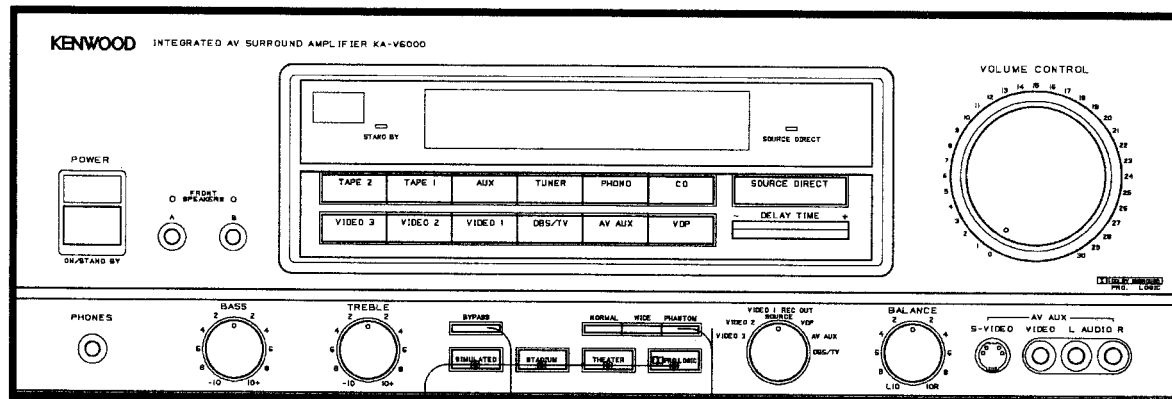
### Example of on-screen character display

When the DBS/TV (DT-7010) input is recorded to the VIDEO 1 (KV-D958S) output, while the tuner (KT-5020) broadcast input is played.



This unit incorporates the model name preset function (see page 33). This function allows to store the model names of other system components so that you can record them by identifying them with the model names.

# Surround effects



Surround select key

Surround BYPASS key

Dolby surround select key (NORMAL, WIDE, PHANTOM)

The reason why the sound you experience in concert halls or stadiums is so real and live is that the sound comes not only from the front but also from the surroundings. To reproduce such conditions as close as possible to reality, this unit is equipped with four Surround modes (PRO-LOGIC, STADIUM, THEATER and SIMULATED). In addition, three Dolby Pro-Logic modes - NORMAL, PHANTOM, and WIDE - are provided to enhance the sound directivity and to provide the sound with a more surrounding, powerful "being-there" feeling.

## Note on Dolby Surround

Video software marked "DOLBY SURROUND" are encoded with Dolby Surround information. This unit incorporates a Dolby Pro Logic Surround decoder for recreating the Dolby Stereo theatre experience in your home with Dolby Surround encoded source material. To obtain this effect, press the PRO-LOGIC key to ON.

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## Surround modes

### PRO-LOGIC (Pro-Logic) mode

The Pro-Logic mode is used when playing a source encoded with Dolby Surround signals.

**NORMAL:** Select this mode when the signal output from the CENTER SPEAKER or CENTER OUT jack on the rear panel is reproduced through a small center speaker. Low frequencies below 100 Hz in this signal are distributed to the left and right front speakers, and frequencies above 100 Hz are reproduced through the center speaker.

**WIDE:** The entire signal output from the CENTER SPEAKER or CENTER OUT jack on the rear panel is sent to the center speaker, without the low frequencies below 100 Hz being routed to the left and right speakers as in case of the Normal mode. Use this mode when an equivalent speaker to the L and R speakers is used as the center speaker.

**PHANTOM:** This mode allows the Pro-Logic effect to be enjoyed even when a center speaker is not connected. In this case, the center signal is distributed to the left and right front speakers.

### THEATER mode

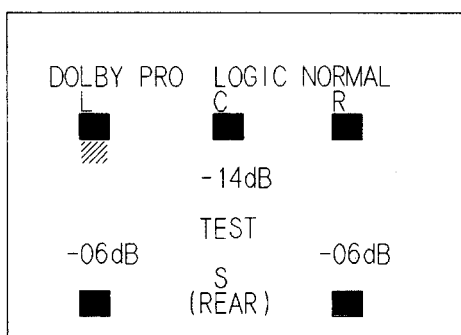
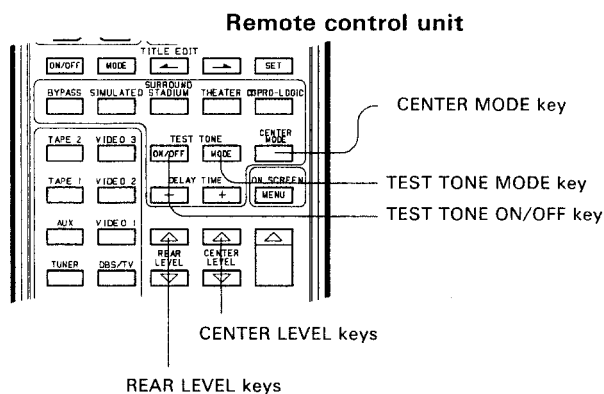
The Theater mode is for use with sources that have not been encoded with Dolby Surround signals. This mode provides a reverberation effect similar to that obtained in movie theaters.

### STADIUM mode

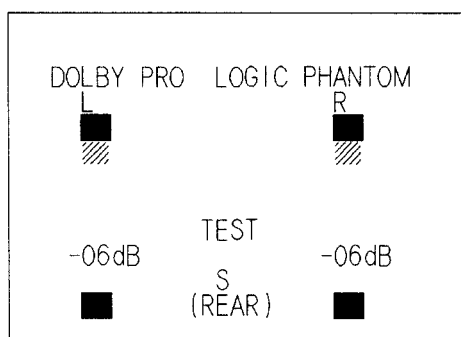
The Stadium mode provides the live, "being-there" feeling obtained when watching baseball or football games in a stadium.

### SIMULATED mode

With this mode, stereo effect is applied to a monaural source.



**In NORMAL or WIDE mode**



**In PHANTOM mode**

## ■ Adjustments in Dolby Pro Logic mode

1. On the front panel or from the remote control unit, set the Surround mode to the **PRO-LOGIC** mode.
2. On the front panel or from the remote control unit, set the center mode to **NORMAL**, **PHANTOM** or **WIDE** according to the speaker setup condition.
3. Turn on the test tone and adjust the volumes from all speakers so that they are almost equal.

### [In NORMAL or WIDE mode]

- ① Press the **CENTER MODE** key to select **NORMAL** or **WIDE**.
- ② At your listening position, press the **TEST TONE ON/OFF** key on the remote control unit.
- ③ Every time the **TEST TONE MODE** key of the remote control unit is pressed, a noise-like test tone is output from different types of speakers in order from **Left → Center → Right → Rear**.
- ④ Adjust the **CENTER LEVEL**  $\pm$  and **REAR LEVEL**  $\pm$  keys **REAR BALANCE** of the remote control unit so that the volumes from the five types of speakers are almost equal.
- ⑤ Press the **TEST TONE ON/OFF** key to **OFF**.

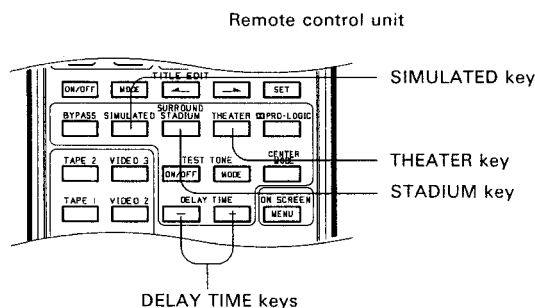
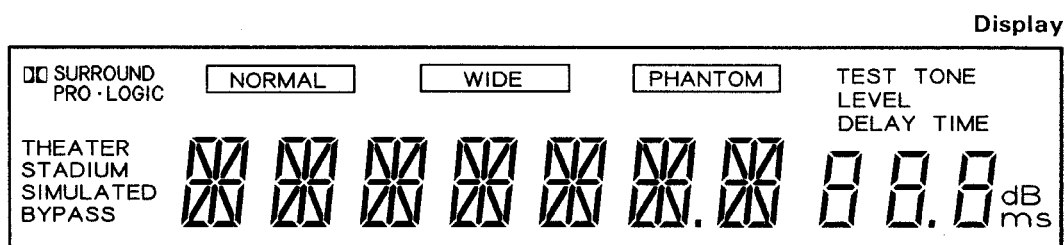
### [In PHANTOM mode]

- ① Press the **CENTER MODE** key to select **PHANTOM**.
  - ② At your listening position, press the **TEST TONE ON/OFF** key on the remote control unit.
  - ③ Every time the **TEST TONE MODE** key of the remote control unit is pressed, a noise-like test tone is output from the front and rear speakers alternately.
  - ④ Adjust the **REAR LEVEL** keys of the remote control unit so that the volumes from the four types of speakers are almost equal.
  - ⑤ Press the **TEST TONE ON/OFF** key to **OFF**.
4. Adjust the delay time according to the Surround speaker position. For the delay time adjustment, refer to page 30.

## ■ Adjustments in input balance

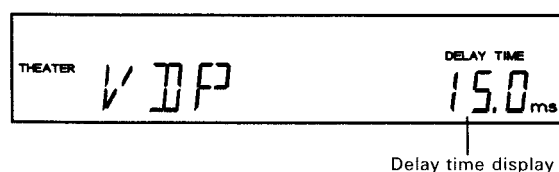
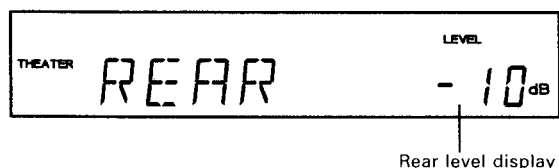
The input balance is adjusted automatically.

"This unit features an automatic input balance control, eliminating the need to adjust L/R input balance for different sources and optimizing performance of the Dolby Pro Logic Surround decoding by minimizing crosstalk."



## ■ How to adjust the Surround (THEATER, STADIUM, SIMULATED) effect

1. Play a component connected to this unit.
  - For the procedure, refer to "How to play an audio source" on page 23.
2. Press the THEATER, STADIUM, or SIMULATED key to enter the Theater, Stadium, or SIMULATED mode.
3. Adjust the REAR LEVEL keys to optimize the rear speaker volume.



**BYPASS**

### DELAY TIME:

This refers to the period of the delay of the rear speaker output with respect to the front speaker output.

## ■ How to play with Surround effect

1. Select the desired Surround mode.
2. Turn the VOLUME CONTROL to obtain the desired volume.
  - The VOLUME CONTROL adjusts the overall volume of all speakers simultaneously.
3. Press the DELAY TIME key to select the desired delay time.
  - In the Dolby Pro Logic mode, the delay time can be set within the range from 15 to 30 ms in 1.5-ms steps.
  - In the Theater mode, the delay time can be set within the range from 0 to 30 ms in 1.5-ms steps.
  - The delay time is fixed at 30 ms in the Simulated and Stadium Surround mode.
  - The SOURCE DIRECT key is defeated when any of the surround modes is selected.

## ■ How to cancel the Surround mode

**Press the BYPASS key.**

- Be sure to set the Bypass mode every time after completing Surround play.

### Note:

The output from the CENTER OUT or CENTER SPEAKERS jacks on the rear panel is OFF unless in the NORMAL or WIDE mode of Dolby Pro Logic mode. No signal is output in other modes.

## Surround information memory and Surround title list functions

For the enjoyment in Surround modes, it is required to set the levels of the channels, delay time, etc., as described on pages 28, 29 and 30. The Surround information memory function makes it possible to store such information in memory.

- For example, to enjoy a movie tape in the **PRO-LOGIC** mode, the operation can be completed by:

Selecting the **PRO-LOGIC** Surround mode → Selecting the **NORMAL** center mode → Adjusting the channel levels using test tone → Setting the delay time. Up to five sets of the information can be stored in memory.

The Surround title list function allows to assign a name to each set of information and store it in memory.

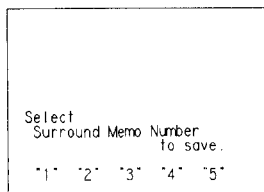
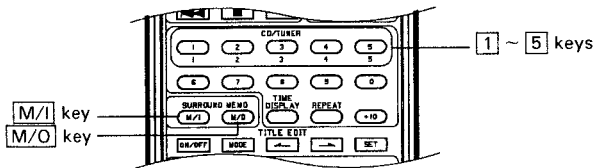


Fig. (A)

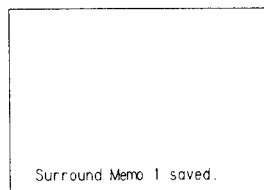


Fig. (B)

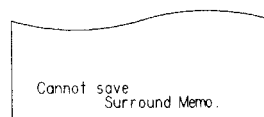


Fig. (C)

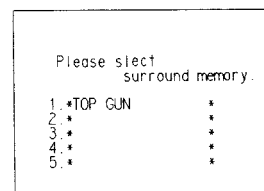


Fig. (A)

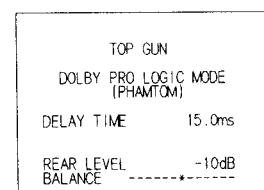


Fig. (B)

The following operations are made from the remote control unit.

### ■ How to save Surround setups in memory

1. Press the **M/I** (Memory Input) key.
  - The TV screen changes to the condition shown in Fig. (A).
2. Press desired one of the **1** to **5** keys.
  - The screen changes to the condition shown in Fig. (B), and the current setup of the following functions is saved under the key pressed:
    - Surround mode,
    - Delay time,
    - Center level,
    - Rear level,
    - Rear balance.

#### Note:

When the Surround mode is the Bypass mode, the display as shown in Fig. (C) appears and the setup cannot be saved in memory.

### ■ How to recall a Surround setup

1. Press the **M/O** (Memory Output) key.
  - The TV screen changes to the condition shown in Fig. (A).
2. Press desired one of the **1** to **5** keys.
  - The screen changes to the condition shown in Fig. (B) (which is an example when the **1** key is pressed).

#### Note:

The title name is displayed only when it has been input with the Title Edit function. For details on the "Title Edit Function", please refer to page 33.

### ■ Setting the delay time

The delay time adjustment is required to compensate for the difference between the distance from your listening position to the front speakers and distance from your listening position to the rear (Surround) speakers.

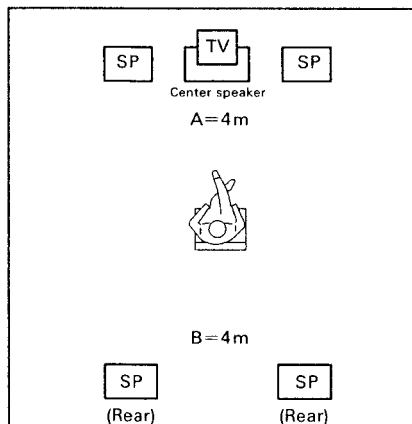
Set the optimum difference based on the following formula.

- Delay time based on the rear speaker position and listening position

$$\text{Delay time} = 20 \text{ ms} + 3 \text{ ms} \times (A\text{m} - B\text{m})$$

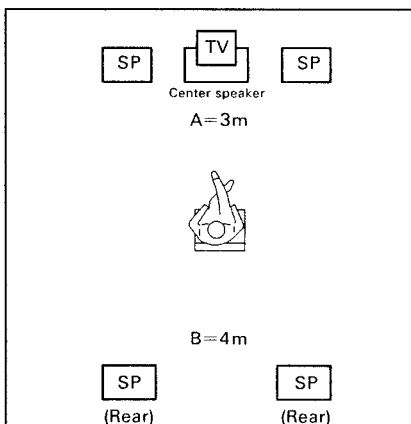


$$20 \text{ ms} + 3 \text{ ms} \times (4 \text{ m} - 4 \text{ m})$$



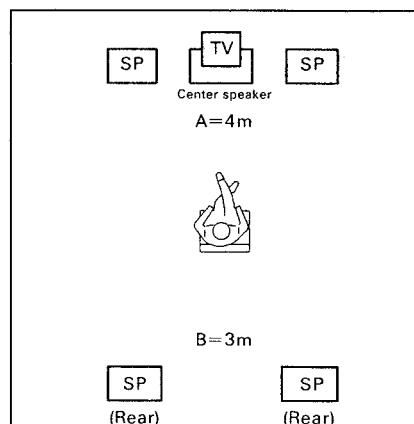
Approx. 20 ms

$$20 \text{ ms} + 3 \text{ ms} \times (3 \text{ m} - 4 \text{ m})$$

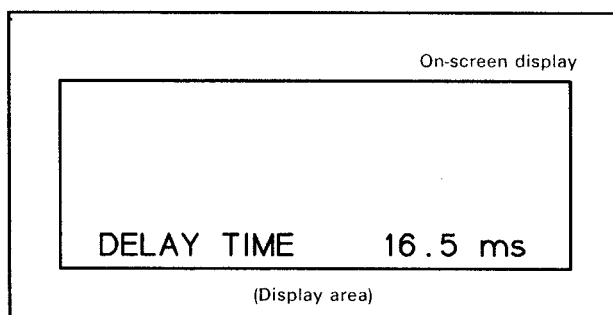


Approx. 17 ms

$$20 \text{ ms} + 3 \text{ ms} \times (4 \text{ m} - 3 \text{ m})$$



Approx. 23 ms

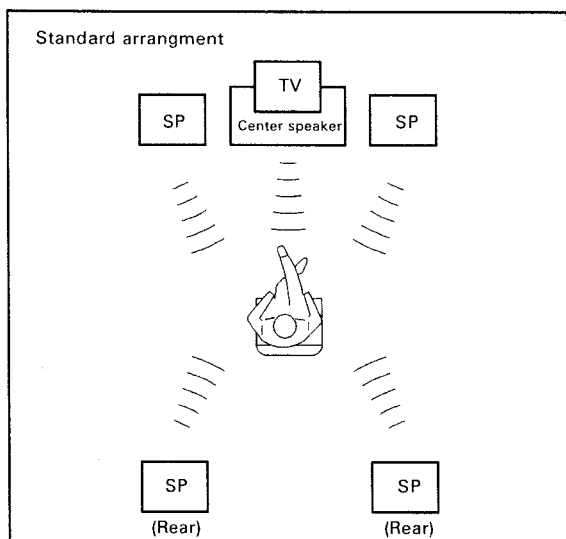


Display for 5 seconds when the DELAY TIME key is pressed.

### ■ Arranging the speakers

A variety of rear speaker arrangement patterns are possible according to room size, reverberation characteristics, etc.

The arrangement patterns given here are typical examples for effective Surround sensation. The given examples are only suggestions. Arrange the speakers according to your individual taste.



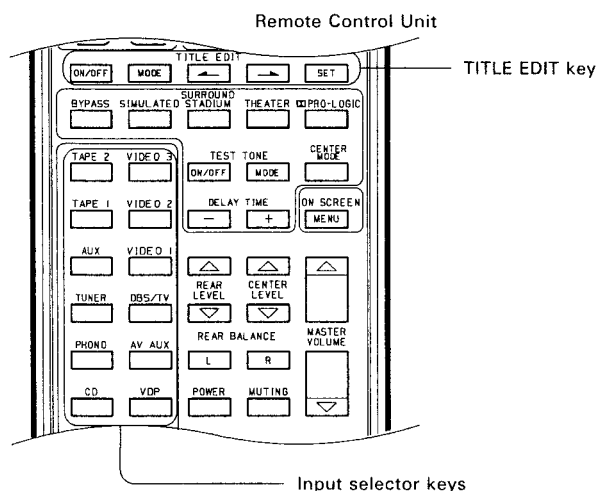


# Title Edit function (Remote Control Unit only)

The input selection or Surround memory name on the TV screen can be replaced with a title. The title characters can be changed according to the components.

## Model name preset function

This function allows to register the model names of the components used in the system.



### How to title-edit the model name

1. Press the **ON/OFF** key.
  - The TV screen changes to the condition shown in Fig. (A).
2. Press the key corresponding to the input source the model name is to be changed.
  - **TUNER**, **CD**, **TAPE 1**, **TAPE 2**, **AUX**, **PHONO**, **VIDEO 1**, **VIDEO 2**, **VIDEO 3**, **VDP**, etc.
  - The TV screen changes to the condition shown in Fig. (B).
3. Select the desired letter or numeral by operating the **←** or **→** key.
4. Press the **SET** key.
  - The selected character is entered and the character entry position moves to the right. Repeat steps 3 and 4 for this column.
5. To move the character entry position to the left or right, press the **MODE** key.
  - The "Character" displayed on the screen changes to "Position".
  - With this condition, the character entry position can be moved to the left or right every time the **←** or **→** key is pressed.
6. Press the **ON/OFF** key.
  - The entry operation is completed and the title is changed.

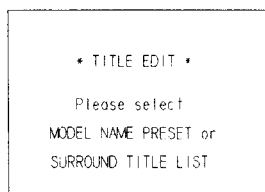


Fig. (A)

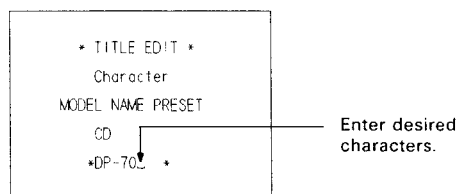


Fig. (B)

A title (movie name, video production title, etc.) can be saved together with the each surround setup saved in memory (max. 16 characters... Surround title list).

■ How to make a surround title list

- 1. Press the **ON/OFF** key.  
The TV screen will show the messages in Fig. (A).
- 2. Press the key into which you want to input the title.



Example: When selecting the key **1**, the TV screen will show the messages in Fig. (B).

- 3. For inputting characters, the method is the same as in steps 3 to 5 of section **“How to preset the model name”**.

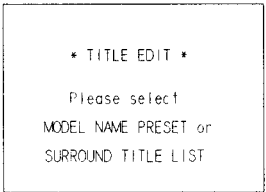
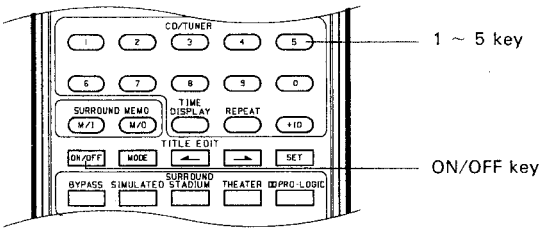


Fig. (A)

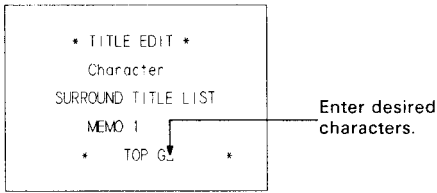
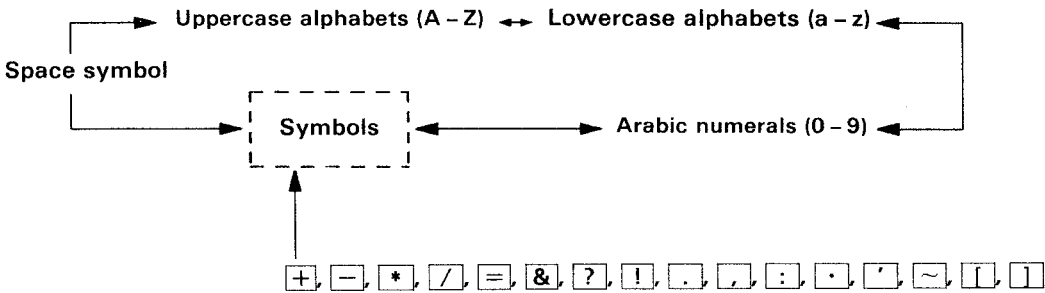


Fig. (B)

The number of available characters is 79, which are varied in the following cycle, each time **←**, **→** is pressed.



# In case of difficulty

What appears to be a malfunction may not always be serious. A simple mis-operation may cause trouble. Before consulting for service, first check the following items.

Symptom	Cause	Remedy
When the POWER switch is set to ON, the indicators do not light and sound is not reproduced.	The power plug is disconnected from the power outlet.	Insert in securely.
Picture and sound are not reproduced.	1. The connection cords are disconnected. 2. The connection cords are connected improperly. 3. The source component selected by the input selector key is different from that being played.	1. Connect the cords securely into the jacks. 2. Check connections, and correct as required. 3. Press the input selectdor key of the component to be listened to.
Sound is not reproduced.	1. The SPEAKERS key is set to OFF. 2. The speaker cords are disconnected. 3. The speaker cords are short-circuited.	1. Set the SPEAKERS key to ON. 2. Connect the cords securely to the speaker terminals. 3. Connect the speaker cords properly.
Sound from the rear speakers is not reproduced or is at a low volume level.	1. The Surround mode is set to BYPASS. 2. The rear speaker level is set to the minimum position. 3. The source is monaural while the Surround mode is Dolby Pro-Logic, Theater or Stadium.	1. Set to a desired Surround mode. 2. Increase the rear speaker level to an optimum level. 3. Set the Surround mode to SIMULATED.
The remote control does not work.	1. The remote controlling distance is too far. 2. The batteries are exhausted.	1. Operate the remote control unit from a closer position. 2. Replace the batteries.
The DELAY TIME switch does not work.	The surround mode is set to STADIUM, SIMULATED or BYPASS.	The delay time cannot be adjusted in these mode.

- Notes:**
- Since this unit is microprocessor-controlled, malfunction may occur due to external noise or interference. In such a case, unplug the power cord first, then plug it into the power outlet while holding the TUNER key depressed. (Note that this clears the title and Surround memory.)
  - Do not use contact cleaner for it sometimes cause malfunction.  
Specially, contact cleaner containing oil could deform plastic parts.

### Memory backup feature

This unit is provided with backup circuitry for various memory functions. The memory will be backed up for a period of about 3 days while the power cord of the unit is disconnected from the power outlet. If the memory is cleared, perform the programming or storage operations again.

### Speaker protection circuitry

If the speaker cords are short-circuited, the speaker protection circuitry is activated and the sound is muted. In such a case, switch the POWER key to OFF, remove the short-circuit from the speaker cords, and switch the POWER key ON again. Normal operation will resume.

# Specifications

## AUDIO section

### Rated power output (FRONT)

80 watts per channel minimum RMS, both channels driven, at 8 ohms, from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion.

### Rated power output (REAR)

18 watts per channel minimum RMS, both channels driven, at 8 ohms at 1 kHz with no more than 0.9% total harmonic distortion.

### Dynamic power

Per channel at 4 Ω ..... 237 W  
Per channel at 8 Ω ..... 146 W

### Total harmonic distortion

Rated output power at 8 Ω,  
20 Hz-20.000 Hz ..... 0.08%  
Rated output power at 8 Ω,  
1 kHz ..... 0.02%

### Frequency response

PHONO RIAA MM ..... 20 Hz ~ 20 kHz, ±0.3 dB  
CD, TUNER, TAPE ..... 5 Hz ~ 100 kHz +0, -3dB

### Signal to noise ratio

PHONO (MM) ..... 78 dB (IHF '66) 79 dB (IHF '78)  
CD, TUNER, TAPE ..... 100 dB (IHF '66) 84 dB (IHF '78)

### Tone control

Bass ..... ±10 dB (at 100 Hz)  
Treble ..... ±10 dB (at 10 kHz)

Damping factor ..... 40 (50 Hz at 8 Ω)

### Input sensitivity/impedance

PHONO (MM) ..... 2.5 mV, 47 kΩ  
CD, TUNER, TAPE ..... 150 mV, 47 kΩ

### PHONO maximum input level

(PHONO to TAPE REC)  
MM at 1 kHz, 0.05%  
T.H.D. .... 145 mV

## Video section

Television format ..... NTSC

Rated input ..... 1 Vp-p, 75 Ω

Rated output ..... 1 Vp-p, 75 Ω

## General

Power consumption ..... 3.3 A (USA & Canada)  
340 W (other countries)

Dimensions ..... W: 440 mm (17-3/8")  
H: 163 mm (6-7/16")  
D: 428 mm (16-7/8")

Weight (Net) ..... 15.0 kg (33 lb)

**Note:** \_\_\_\_\_  
KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

## For the U.S.A.

### FCC WARNING:

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

### Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment may cause harmful interference to radio communications, if it is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.